INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT
OF THE
REACTION CONTROL
SYSTEM
Vol. 2 of 5

26 FEBRUARY 1988

NASA DATA:

ASSESSMI ASSESSMI NASA FMI	ENT	II):	1/29/8 FRCS-7 05-6KF	42	88 -	1				ASA DA BASELI N				
SUBSYSTI MDAC ID: ITEM:				FRCS 742 RESIST	or,	5.1	K 1	/4W	ī						
LEAD ANA	ALYS	ST	:	D. HAF	TMA	N									
ASSESSMI	ENT	:													
	CR			ΙΤΥ	F	REDUN	DAN	CY	SCREE	ens		CI	L	ď.	
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COMPARE	[/]	[3	(]	[]	[]	
RECOMME	NDA'	ri	ons:	(If	di	fere	nt	fro	om NAS	SA)					
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* CIL R	ETE	NT:	ION 1	RATION?	ALE:	(If	ap	pli	icable	P	DEQUAT	[]	

REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	FRC 05-	9/88 S-743 6KF-20	88	-1		N	ASA D BASEL		[) x]	
SUBSYSTI MDAC ID ITEM:				FRC 743	S		1K 1/4							
LEAD AND	ALY	ST	:	D.	HARTMA	N								
ASSESSMI	ENT	:												
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REMARKS:										DEQUA' DEQUA'		[]	
A SHORT	ACI	ROS	ss os	A RLR REMOVA	TYPE	RES: THE	ISTOR 1	S 1	NOT A (CREDII	BLE E FR	FAI	LUI TH:	RE. IS

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FDCC-744	38 - 1		NASA DATA: BASELINE NEW		
0000	FRCS 744 RESISTOR,	5.1K 1,	/4W			
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
	ITY R	CY SCREE	ens	CIL ITEM		
FLIGH HDW/FU	С					
NASA [3 /3 IOA [3 /3] [] []	_	[
COMPARE [/] [] [3	[]	[]
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)		
[3 /2]	?] [P] [P	[P]	[DD/DE] LETE)
* CIL RETENTION	RATIONALE:	(If ap	plicable	e) ADEQUATE INADEQUATE]
REMARKS: THIS FAILURE MAY POSITION. REDUIT TO FALSELY FAIL OPERATIONS.	IDANCY PROV	IDED.	LOSS OF	ALL REDUNDA	\mathtt{NCY} M	AY LEAD

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	D. I:	ATE D:	FRC 05-	9/88 S-745 6KF-20	88 -	-1		N	IASA DA BASELI 1]	
SUBSYSTE MDAC ID:	EM:			FRC: 745	S		1K 1/4							
LEAD ANA	LY	ST	:	D. 1	HARTMA	N								
ASSESSME	ENT	:												
	CR		ICAI LIGI		R	EDUI	NDANCY	SC	REENS			CIL	•	
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COMPARE	[/)	ſ]	[]	[]		[]	
RECOMMEN	IDA!	ric	ONS:	: (:	If dif	fere	ent fr	om 1	NASA)					
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REMARKS:										DEQUAT	re i		j	
A SHORT	ACI MMI	ROS ENI	SS A	A RLR REMOVA	TYPE AL OF	RESI THE	STOR :	cs 1	NOT A FAILUR	CREDIE E MODE	BLE I	IIA?	JUR HI	Œ.

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-746 NASA FMEA #: 05-6KF-2089 -1												_		DATA: LINE NEW	[x]	
SUBSYSTEM MDAC ID:	M:			FRCS 746 RESIST	roi	۲,	1.28	2	W									
LEAD ANA	LYS	ST	:	D. HAI	RTI	IAN	1											
ASSESSME	NT:	:																
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	1		/FUI			A			В			С						
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COMPARE	[N	/N	1	[N]	(N]	[N)		[N]	
RECOMMEN	DA'	TI:	ons:	(If	đ	ifi	feren	nt	fr	om N	(ASA)						
	[3	/2R]	[P]	(P]	[P]	(A		D D		ETE)
* CIL RE	TE	NT	ION :	RATION	AL	E:	(If	aŗ	pl	icak			DEQU DEQU		[]	
REMARKS: NASA FME	A	co	NSID	ERS MU	LT	IP:	LE F	AI	LUR	ES.	НО	WE'	VER,	Los	S	of	,	

CAPABILITY TO MONITOR VALVE STATUS MAY LEAD TO FALSELY FAILING THE VALVE CLOSED POSSIBLY EFFECTING MISSION OPERATIONS.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT I	D:		-747	89 -	2		N	IASA DA' BASELII N		x]
SUBSYSTEMDAC ID:	M:		FRCS 747 RESIS	STOR,	1.2	K 2W					
LEAD ANA	LYSI	?:	D. HA	ARTMA	N						
ASSESSME	NT:										
•			ITY	R	EDUN	DANCY	SCRE	ENS		CII	
		LIGH'		A		В		C	!	ITI	EM
NASA IOA	[3	/3]	[]	[]	[]	[] *
COMPARE	[/]	[]	[]	ĺ]	[]
RECOMMENI	DATI	ons:	(If	dif	fere	nt fr	om NA	SA)			
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* CIL RET	TENT	ION 1	RATION	ALE:	(If	appl:	icabl	A	DEQUATE DEQUATE]

NO DIFFERENCES.

ASSESSME	SSESSMENT DATE: 1/29/88 SSESSMENT ID: FRCS-748 ASA FMEA #: 05-6KF-2087 -1]	
SUBSYSTEMDAC ID:			FRCS 748 RESI	STOR,	5.1	K 1/4	W						
LEAD ANA	LYST	:	D. H	ARTMAI	N								
ASSESSME	NT:												
	CRIT	ICAL LIGH		R	EDUN	DANCY	SCR	EENS			CII		
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NASA IOA	[3 [3	/3 /3]	[[]]]] []		[[] *]	ŧ.
COMPARE	[/	3	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(I	fdif	fere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(A	[DD/I] DELET	ľE)
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REMARKS:									20			J	

NO DIFFERENCES.

ASSESSM ASSESSM NASA FM	ENT	I	D:	FRO	CS-749	087 -	-1		1		DATA LINE NEW	[x]	
SUBSYST				FRO 749 RES		, 5.1	LK 1/4	1W						
LEAD AN	ALYS	ST	:	D.	HARTMA	AN .								
ASSESSM	ENT:	:												
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	I			JNC	7	1	F	3	(2		11.	C.PI	
NASA IOA]	3	/3 /3]	[]	[[]	[]		[]	*
COMPARE	[/]	Ţ]	[]	[]		[]	
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REMARKS										ADEQU ADEQU	ATE	[]	
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ASSESSMEI ASSESSMEI NASA FME	T	ID):	FRC	s-750		-1		N		DATA: LINE NEW	[
SUBSYSTEM MDAC ID:	M:			FRC 750 RES)	₹, 5.:	1K 1/4	1W						
LEAD ANA	LYS	T:		D.	HARTI	IAN								
ASSESSME	NT:													
	CRI		CAI LIGH	LITY		REDUI	NDANC!	Y SCR	EENS			CII		
	H	_		INC		A	1	В	C	2				
NASA IOA	[3	/3 /3]	[]	[]	[]		[] *]	•
COMPARE	[/]	[]	[]	[]		[]	
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	[/]	[1	[]	[]	(A	[DD/I] DELET	ľE)
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REMARKS:	REI	NC1	ES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-751 05-6KF-20	87 -1	1	VASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 751 RESISTOR,					
LEAD ANALYST:	D. HARTMAI	N				
ASSESSMENT:						
CRITICAL: FLIGHT	ITY RI	EDUNDANCY	SCREENS		CIL	
HDW/FU		В	C	2	TIE	M.
NASA [3 /3 IOA [3 /3] [] [] []	[] *]
COMPARE [/	J [] [] []	[]
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)			
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* CIL RETENTION F	RATIONALE:	(If appl	•			
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REMARKS: A SHORT ACROSS A IOA RECOMMENDS RE FMEA.						

ASSESSME ASSESSME NASA FME	ATE:	1/29/ FRCS- 05-6F	/88 -752 (F-20	88 -1	L			ASA DATA BASELINE NEW				
SUBSYSTE MDAC ID: ITEM:	M :			FRCS 752 RESIS								
LEAD ANA	LY	ST	:	D. H2	ARTMA	N						
ASSESSME	NT	:										
	CR		ICAL: LIGH	ITY	R	EDUNI	DANCY	SCF	REENS		CIL	
	1			NC	A		В		С			
NASA IOA	[3	/3 /3]	[]	[]	[]	[] *]
COMPARE	[/]	[]	[]	(]	[]
RECOMMEN	IDA'	TI	ons:	(I:	f dif	fere	nt fr	om 1	NASA)			
	[3	/2R]	[P)	[F]	[P] (2	[ADD/E] DELETE)
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REMARKS: THIS FAI POSITION TO FALSE OPERATION	LLU 1. ELY	R F	EDUN	DANCY	PROV	IDED	. LC	SS (E INDI	CATION (OF TH	

ASSESSMI ASSESSMI NASA FMI	ENT	II	D:	FRO	S-753		-1			ASA D BASEL		[) x]	
SUBSYSTI MDAC ID: ITEM:				FRO 753 RES	,	t, 5.	1K 1/4	W						
LEAD ANA	LY	ST	:	D.	HARTM	AN								
ASSESSMI	ENT	:												
	CR					REDUI	NDANCY	SC	REENS			CII		
FLIGHT HDW/FUNC A B C														
NASA IOA	[3	/3 /3]]]	[]	[[]	*
COMPARE	[/]	[]	[]	(]		[]	
RECOMMEN	IDA:	ric	ons:	: (If di	ffere	ent fro	om 1	NASA)					
	[/]	£]	[]	[]	(AD	[D/I] DELF	ETE)
* CIL RE		nt)	ION	RATI	ONALE	: (If	f appl:	ical	. Al	DEQUA' DEQUA'		[]	
A SHORT IOA RECO	ACI	ROS ENI	SS A	A RLR REMOV	TYPE AL OF	RES]	STOR I	IS 1	NOT A (FAILUR)	CREDII	BLE E FR	FAI OM	LUF THI	Œ. [S

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-754	4 2088 - 1			SA DATA: BASELINE NEW]
	FRCS 754 RESISTO						
LEAD ANALYST:	D. HARTI	MAN					
ASSESSMENT:							
CRITICAL: FLIGH		REDUNDA	NCY S	CREENS		CIL	1
	NC	A	В	С			
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *
COMPARE [/] [1	[]	[]	[]
RECOMMENDATIONS:	(If d	ifferent	from	NASA)			
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REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILI	DANCY PR	OVIDED.	LOSS	TE INDIO	CATION O	F THI	E VALVE MAY LEAD

ASSESSMEI ASSESSMEI NASA FMEZ	T	ID):	FR	CS-75		-1		1	NASA D BASEI		[) X]	
SUBSYSTEM MDAC ID:	M:			FR 75 RE		R, 5.	1K 1/	4W						
LEAD ANA	LYS	T:		D.	HART	MAN								
ASSESSMEN	YT:													
C			CAI			REDU	NDANC	Y SCI	REENS			CI		
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ASSESSME ASSESSME NASA FME	NT DANT II A #:	ATE: D:	1/29 FRCS 05-6	/88 -756 KF-20	88 -	1			ASA D BASEL		[
SUBSYSTE MDAC ID: ITEM:			FRCS 756 RESI		5.1	K 1/4	W						
LEAD ANA	LYST	:	D. H	ARTMA	AN .								
ASSESSME	NT:												
		ICAL LIGH	YTI	I	REDUN	DANCY	SCR	EENS			CIL		
	_	W/FU		7	A	E	3	C	:				
NASA IOA	[3 [3	/3 /3]	[[]	[]	[[]		[] *]	
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDATI	ons:	: (1	f di	ffere	ent fi	com N	ASA)					
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* CIL RE	ETENI	NOI!	RATIO	ONALE	: (I1	app:	licab	7	ADEQUA]	
REMARKS: THIS FAI POSITION TO FALSE OPERATION	LURE 1. F ELY F	REDUN	VDANC'S	PRO'	VIDE). L	oss c)F ALI	REDU	JNDA	NCY	MAY L	EAD

ASSESSME	NT DATE: NT ID: A #:	FRCS-7	88 757 7 – 208	88 - 1				ASA DATA BASELINE NEW	[]	
SUBSYSTE MDAC ID:		FRCS 757 RESIST									
LEAD ANA	LYST:	D. HAR	RTMAI	N							
ASSESSME	NT:										
	CRITICAL FLIGH		RI	EDUNDA	ANCY	SCRE	ens		CIL		
	HDW/FU		A		В		С		ITE	M	
NASA IOA	[3 /3 [3 /3]	[]	[]	[]	[]	*
COMPARE	[/]	[]	[]	[[]	
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REMARKS:								DEQUATE DEQUATE	[]	
A SHORT	ACROSS A MMENDS R										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-758 05-6KF-208	88 - 1		NASA DATA: BASELINE NEW]							
MDAC ID:	FRCS 758 RESISTOR,	5.1K 1/4V	Ŋ										
LEAD ANALYST:	D. HARTMAI	N											
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C													
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NASA [3 /3 IOA [3 /3] [] [] []	[] *]							
COMPARE [/] [] [] []	[]							
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)										
[3 /2R] [P] [P] [P] (Al	[DD/DE] :LETE)							
* CIL RETENTION	RATIONALE:	(If appl		ADEQUATE IADEQUATE	-]							
REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILI OPERATIONS.	DANCY PROV	IDED. LO	SS OF AI	L REDUNDA	NCY M	IAY LEAD							

ASSESSMEN ASSESSMEN NASA FMEA	T I	D:	FRCS-7	759	38 - 1				ASA DAT BASELIN NE		-]	
SUBSYSTEM MDAC ID: ITEM:	:		FRCS 759 RESIST	COR,	5.1K	1/4	₹						
LEAD ANAL	YST	:	D. HAF	RTMAI	1								
ASSESSMEN	T:												
C		ICALI		RI	EDUNDA	ANCY	SCRE	ens			CIL		
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NASA IOA	[3 [3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/	3	[]	[]	[]		[]	
RECOMMEND	ATIC	ONS:	(If	diff	ferent	fro	om NAS	SA)					
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REMARKS: A SHORT A IOA RECOM													

ASSESSME ASSESSME NASA FME	NT	II		FR	CS-7	60		9 -1	L						DATA: LINE NEW	[x]	
SUBSYSTE MDAC ID:				FR 76 RE	0	OF	٤,	1.2H	Κ 2	W									
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ASSESSME	NT	:																	
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	I	HD	/FU	NC			A			В			C						
NASA IOA	[2	/1R /3]		[P]	[F]	[[P]		[X]	*
COMPARE	[N	/N]		[N)	(N]	[N	1		[N)	
RECOMMEN	1DA'	TI	ons:		(If	đ:	if	fere	nt	fr	om	NASA)						
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REMARKS	:		. –								TO C	но	ימוני	מיזוז	TAG	c ,	೧೯		

NASA FMEA CONSIDERS MULTIPLE FAILURES. HOWEVER, LOSS OF CAPABILITY TO MONITOR VALVE STATUS MAY LEAD TO FALSELY FAILING THE VALVE CLOSED POSSIBLY EFFECTING MISSION OPERATIONS.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	IT :	ID:	FRCS	/88 -761 KF-20)89 -	·2]	NASA DA BASELI N		;] ;]
SUBSYSTE MDAC ID:			FRCS 761 RESI	STOR,	1.2	K 2W					
LEAD ANA	LYS	r:	D. H	ARTMA	N.						
ASSESSME	NT:										
		FICAL		F	REDUN	DANC'	Y SCR	EENS		CII	
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NASA IOA	[3	3 /3]	[]	[]]]	[[] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	DAT]	cons:	(I	f dif	fere	nt fi	com N	ASA)			
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KLMAKKS:											

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS	/88 -762 KF-208	37 –	1		N		DATA LINE NEW	[
SUBSYSTE MDAC ID:			FRCS 762 RESI	STOR,	5.1	K 1/4	W							
LEAD ANA	LYSI	? :	D. H	ARTMAI	N									
ASSESSME	ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL													
FLIGHT														
			NC	A		E	3	C	2			14.4		
NASA IOA	[3	3 /3]]		[] *	e						
COMPARE	[/	1	[]	[]	[]		[]		
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SUBSYSTI MDAC ID: ITEM:	EM:			FRCS 763			LK 1/41						
LEAD ANA	ALY	ST	:	D. H	ARTMA	N.							
ASSESSME	ENT	:											
	CR		ICAI LIGH	JTY	F	REDUN	IDANCY	SCF	REENS		CII		
	1			NC	P	7	В		(2	ITI	SM	
NASA IOA	[3	/3 /3]	[]	ĵ []	[]	[]	*
COMPARE	[/]	[]	[]	[]	[]	
RECOMMEN	IDA!	ΓI	ons:	(I	f dif	fere	ent fro	om N	IASA)				
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* CIL RE		NT:	ION	RATIO	NALE:	(If	appl:	icab		ADEQUA]	
REMARKS: A SHORT IOA RECO	ACI												

ASSESSME ASSESSME NASA FME	ENT	ID:	1/29/8 FRCS-7 05-6KI	764	37 - 1	· -		N	ASA DA BASELI N	NE	[x		
SUBSYSTE MDAC ID:			FRCS 764 RESIST	ror,	5.1F	(1/4)	W						
LEAD ANA	ALYS	T:	D. HAI	RTMAN	1								
ASSESSMI	ENT:												
	_	TICAL		RI	EDUNI	DANCY	SCRE	ENS			CIL		
		FLIGH DW/FU		A		В		C	2				
NASA IOA	[[3 /3 3 /3]	[]	[]	[]		[]	*
COMPARE	ſ	/]	[]	[)	[]		[]	
RECOMME	NDAT	cions:	(If	dif	fere	nt fr	om NA	SA)					
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* CIL R	ETEN	ITION	RATION	ALE:	(If	appl	icabl	4	ADEQUA' ADEQUA'		[]	
REMARKS	:												

NO DIFFERENCES.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/88 FRCS-76 05-6KF-	5 2091 - 1			ASA DATA BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 765	R, 5.1K						
LEAD ANALYST:	D. HART	MAN						
ASSESSMENT:								
CRITICA FLIG		REDUNDA	NCY SCRI	EENS		CIL		
HDW/F		A	В	С		ITE	И	
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COMPARE [/] []	[]	[]	[]	
RECOMMENDATIONS	(If d	ifferent	from NA	SA)				
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* CIL RETENTION	RATIONAL	E: (If a	pplicabl		DEQUATE	[1	
REMARKS:				INAI	DEQUATE	į	ĵ	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-76 05-6KF-	6 2088 - 1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 766 RESISTC				
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCRE	ENS	CIL ITEM
	INC	A	В	С	
NASA [3 /3 IOA [3 /3] []]	[]	[]	[,] *
COMPARE [/] [1	[]	[]	[]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicabl	.e) ADEQUATE INADEQUATE	[]
REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILS OPERATIONS.	IDANCY PR	OVIDED.	LOSS OF	INDICATION O	F THE VALVE

ASSESSME ASSESSME NASA FME	ENT 1	D:	FRCS-	767	091 -	·1]	NASA D BASEL		[] K]	
SUBSYSTE MDAC ID:			FRCS 767 RESIS	TOR	, 5.1	.K 1/41	W						
LEAD ANA	LYSI	r:	D. HA	RTM	AN								
ASSESSME	ENT:												
		TICAL FLIGH		I	REDUN	DANCY	SCR	EENS			CII	_	
		W/FU		2	A	В		(2		ITE	M	
NASA IOA	[3	3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	ĵ]		[]	
RECOMMEN	DATI	ons:	(If	dii	fere	nt fro	om N	ASA)					
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* CIL RE	TENT	NOI	RATION	ALE:	(If	appli	icab	•			_		
									DEQUA'		[]	
REMARKS: A SHORT IOA RECO FMEA.	ACRO MMEN	SS A	RLR T EMOVAL	YPE OF	RESI THE	STOR 1	S N	OT A AILUF	CREDI	BLE E FR	FAI	LUR THI	E. S

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-768)88 - 1	NASA DATA: BASELINE [] NEW [X]							
	FRCS 768 RESISTOR									
LEAD ANALYST:	D. HARTM	AN								
ASSESSMENT:										
CRITICAL: FLIGH	ITY I	REDUNDA	NCY	SCREE	NS		CIL	M.		
 		A	В		С			-		
NASA [3 /3 IOA [3 /3] []]]	[]	[] *]		
COMPARE [/] []	[]	[]	[]		
RECOMMENDATIONS:	(If di	fferent	fro	om NAS	A)					
[3 /2R] [P]	[P]	[P] (A	[DD/D] ELETE)		
* CIL RETENTION	RATIONALE	: (If a	ppli	icable	Al	DEQUATE DEQUATE	[]		
REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILI OPERATIONS.	DANCY PRO	VIDED.	LOS	SS OF	ALL	REDUNDA	NCY	MAY LEAD		

ASSESSM ASSESSM NASA FM	ENT	I	D:	FRC	S-769	91 -	-1			ASA 1 BASE1		[x]	
SUBSYST MDAC ID ITEM:				FRC 769 RES		5 . :	1K 1/4V	v							
LEAD AN	ALY	ST	:	D.	HARTMA	N									
ASSESSM	ENT	:													
	CR		ICAI LIGH		R	EDUI	NDANCY	SC	REENS			CI	_		
	1		W/FU		A		В		С			LT	EM		
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* CIL R	ETEI	T	ION	RATI	ONALE:	(II	f appli	.cal	•	DEQU <i>I</i>	יבוחו	_		7	
REMARKS	•									DEQUA		[]	
A SHORT IOA RECO	ACI														

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	SA DATA: BASELINE NEW]									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 770 RESISTOR,	5.1K 1/4	ŀW									
LEAD ANALYST:	D. HARTMAN	ı										
ASSESSMENT:												
CRITICAL FLIGH		EDUNDANC	SCRE	ENS		CIL						
HDW/FU	_	I	3	С			•					
NASA [3 /3 IOA [3 /3] [] []	[]	[] *]					
COMPARE [/] [] []	[]	(]					
RECOMMENDATIONS:	(If dif	ferent fi	rom NA	SA)								
[3 /2R] [P] []	P]	[P		[DD/DI] ELETE)					
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
POSITION. REDUN	THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE											

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSME ASSESSME NASA FME	NT II		FRCS-	771	91 - 1				ASA DATA BASELINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 771 RESIST	ror,	5.1K	1/4	v					
LEAD ANA	LYST	:	D. HAI	RTMAI	Ŋ							
ASSESSME	NT:											
1	CRIT			R	EDUNDA	ANCY	SCREI	ens		CIL		
		LIGH! W/FUI		A		В		С		ITE	M	
NASA IOA	[3	/3 /3]	[]	[]	[]	[]	*
COMPARE	C	/]	[]	[]	[[]	
RECOMMEN	DATIO	ONS:	(If	dif	ferent	t fro	om NAS	SA)				
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* CIL RE	TENT	ION I	RATIONA	ALE:	(If a	appli	icable	AI	DEQUATE	[]	
REMARKS: A SHORT IOA RECOREMEA.								r a c	CREDIBLE	FAI		

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-772 NASA FMEA #: 05-6KF-2088 -1																DATA: LINE NEW]			
SUBSYST MDAC ID ITEM:					FRO 77: RES	2	OR	,	5.1K	1/	′4W	ī									
LEAD AN	AL'	YS	T	•	D.	HAF	MTS	AN													
ASSESSM	EN'	T:																			
	C		F	LIGH!	r				DUNDA	ANC		SC	REE	NS				CIL			
		H	IDī	/FUI	NC		•	A			В				С						
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RECOMME	ND.	ľA	CI(ons:		(If	di	ff	erent	t 1	fro	om	NAS	A)							
		[3	/2R]		[P	<u>,</u>	[P]		[P]	(A	[DD/D		ETE)	
* CIL R	ET	Εì	VT.	ION :	RAT	ION	ALE	:	(If	apı	pl:	ica	ble		AI IAI	DEQU DEQU	JATE JATE	[]		
REMARKS THIS FA POSITIO TO FALS OPERATI	NIL ON. SEL	Ϋ́	R F	EDIIN	DAN	CY 1	PRO	VI	DED.]	LOS	SS	OF	A]	ĽĽ	REL	UNDA	NCY	MA:	Y LEAL)
ISSUE N	TOI	. 1	RE	SOLV	ED	AT 1	MEE	TI	NG W	IT	H :	SUE	SYS	STI	EM	MAN	IAGER	ON	1/:	20/88	,

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS-	773	91 - 1	L		1	NASA DA' BASELII N] K]
SUBSYSTE MDAC ID:			FRCS 773 RESIS	TOR,	5.1	K 1/41	N				
LEAD ANA	LYST	:	D. HA	RTMA	N						
ASSESSME	NT:										
	CRIT	ICAL LIGH		R	EDUNI	DANCY	SCRI	EENS		CII	-
		W/FU	-	A		В		C	2	ITE	SM.
NASA IOA	[3 [3	/3 /3]	[]	[]	[]	[] *
COMPARE	ĺ	/]	[]	[3	[]	[]
RECOMMEN	DATI	ons:	(If	dif	ferer	nt fro	om NA	SA)			
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* CIL RE	TENT:	ION 1	RATION	ALE:	(If	appli	icab1	•			
									DEQUATI DEQUATI	-]]
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ASSESSME ASSESSME NASA FME	NT	II		FRCS-	-774					NASA DA' BASELI N	NE	[]	
SUBSYSTE MDAC ID:				FRCS 774 RESIS	STOR,	5.11	K 1/4W	ī						
LEAD ANA	LYS	T:	:											
ASSESSME	ENT:	:												
	CRI		CAL LIGH		RE	EDUNI	DANCY	SCRE	EENS			CIL		
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COMPARE	[N	/N	1	[]	(]	[]		[]	
RECOMMEN	NDA'	ri	ons:	(I	f dif	fere	nt fr	om NA	ASA)					
	[/]	[]	[]	[]	(AI	[D/DC	-	ETE)
* CIL RI	e te i	NT:	ION	RATIO	NALE:	(If	appl	icab]		ADEQUAT TAUQADA		[]	
REMARKS FORWARD CHANGE	MA	NI: CI:	FOLD RCUI	ISOL	ATION SEE	VAL ASSE	VE #5 SSMEN	RE-Z	ANAI s Fi	LYZED BY	7 IO	OA D -110	UE 791	TO X.

ASSESSMENT DA ASSESSMENT II NASA FMEA #:		775				DATA: SELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 775 RESIST	OR, 5.1K	1/41	Ñ				
LEAD ANALYST	•							
ASSESSMENT:								
	ICALITY LIGHT	REDUND	ANCY	SCREE	NS		CIL	
	W/FUNC	A	В		С		ITEN	1
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COMPARE [N	/N]	[]	[]	[]		(]
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* CIL RETENT	ION RATIONA	LE: (If	appli		ADEQ	UATE	ָנַ	j
REMARKS: FORWARD MANIE CHANGE IN CIF	FOLD ISOLAT RCUITRY. S	ION VALV	E #5 SMENT	RE-AN	INADEQ ALYZED FRCS 1	BY IC	A DU	E TO

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SUBSYSTE MDAC ID: ITEM:				FRO 776 RES		5.1	LK 1/41	Ä						
LEAD ANA	LYS	ST	:											
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COMPARE	(N	/N]	[]	[]	ſ]		[]	
RECOMMEN	NDA'	TI	ons:		(If dif	fer	ent fr	om N	IASA)					
	[/]	[]	[]	[]	(A)	[D D /) DELE	ETE)
* CIL RI	ETE	NT	ION	RAT	IONALE:	(I	f appl	icak		ADEQU ADEQU	JATE JATE	[]	
REMARKS FORWARD CHANGE	MA	NI CI	FOLI RCU) IS	OLATION . SEE	VA ASS	LVE #5 ESSMEN	RE-	-ANAL Os FR	YZED CS 11	BY I	0A -11	DUE 0792	TO

ASSESSM ASSESSM NASA FM	ENT	' I		FRCS	-777					NASA D BASEL		[]
SUBSYST MDAC ID ITEM:				FRCS 777 RESIS	STOR,	5.1	K 1/4	W					
LEAD AN	ALY	ST	:										
ASSESSM	ENT	:											
	CR			ITY T	R	EDUN	DANCY	SCRI	EENS			CIL	
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* CIL RI	ETEI	NT]	ON 1	RATION	ALE:	(If	appl	icabl	•				
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ASSESSME ASSESSME NASA FME	ENT	II			-778					nasa i Base:	DATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				FRCS 778 RESI	STOR,	5.1	K 1/4V	v						
LEAD ANA	ALY	ST	:											
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* CIL R		TN	ION	RATIO	ONALE:	(If	appl	ica	ble) Il	ADEQU NADEQU	ATE	[]	
REMARKS FORWARD CHANGE	MA	NI CI	FOLI RCU	ISO	LATION SEE A	VAI ASSE	VE #5 ESSMEN	RE T I	-ANAI	LYZED RCS 11	BY I	OA 1	OUE 079]	TO

ASSESSM ASSESSM NASA FM	ENT	I		FRCS-	779				1	NASA DA BASELI N]	
SUBSYST				FRCS 779 RESIS	ror,	5.1K	1/4	W						
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
	CR		ICAL LIGH	ITY	R	EDUND.	ANCY	SCRE	ENS			CIL		
]		W/FU		A		В		(C		ITE	л	
NASA IOA	[3	/3]	[]	[]	[]		[] *	
COMPARE	[N	/N]	[]	[]	[]		[]	
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REMARKS: FORWARD CHANGE	MAI	NII CII	FOLD RCUI	ISOLAT	TION SEE #	VALVI ASSESS	E #5 SMENT	RE-AN	NALY		IO	A DU	, JE TO 79X.	ı

ASSESSME ASSESSME NASA FME	NT	ID		FRCS-7	780				ħ	IASA DA' BASELI N		_]	
SUBSYSTE MDAC ID:				FRCS 780 RESIST	ror,	5.1K	1/4W	1						
LEAD ANA	LYS	ST:	:											
ASSESSME	ENT:	:												
	CRI			ITY	RI	EDUNDA	ANCY	SCREE	NS			CIL	4	
	I		JIGH' V/FU		A		В		(C			-	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N	1	[]	[1	[]		[]	
RECOMME	NDA!	ric	ons:	(If	dif	feren	t fro	om NAS	SA)					
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REMARKS FORWARD CHANGE	MA			ISOLA	TION SEE	VALV ASSES	e #5 Smen'	RE-Al I IDs	IAL FR	YZED BY CS 1100	7 IO	OA D	UE 793	то {.

ASSESSM ASSESSM NASA FM	ENT	' I		FRCS-	·781				1	NASA [BASE]		[]
SUBSYST: MDAC ID ITEM:				FRCS 781 RESIS	TOR,	5.1H	< 1/4	W					
LEAD AN	ALY	ST	:										
ASSESSMI	ENT	:											
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	FLIGHDW/F				[]	[]	[]		[] *
COMPARE	[N	/N]	[]	(]	[]		[]
RECOMMEN	IDA'	ri	ons:	(If	dif	feren	t fr	om NA	SA)				
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ASSESSME ASSESSME NASA FME	NT	II		FRC	:S-782				ì	IASA 1 BASE:	DATA: LINE NEW	-]	
SUBSYSTE MDAC ID:				FRC 782 RES		5.1	K 1/4W	ī						
LEAD ANA	LY	ST	:											
ASSESSME	NT	:												
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COMPARE	[N	/N]	[]	[]	ſ]		[]	
RECOMMEN	IDA'	TI	ons:	((If diff	ere	nt fro	om N	IASA)					
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* CIL RE	ETE:	NT	ION	RAT	ONALE:	(If	appli	cak		ADEQU ADEQU		[]	
REMARKS: FORWARD CHANGE	MA	NI CI	FOLE RCUI	ISC TRY	OLATION SEE A	VAL ASSE	VE #5 SSMENT	RE-	-ANAL Os FR	YZED CS 11	BY IC	A D	UE 792	TO

ASSESSMI ASSESSMI NASA FMI	ENT	I		FRC	S-783				ì	NASA DA BASELI N]	
SUBSYSTI MDAC ID: ITEM:				FRC 783 RES		5.1	.K 1/41	J					
LEAD ANA	Y LY	ST	:										
ASSESSMI	ENT	:											
	CR			ITY	RI	EDUN	DANCY	SCR	EENS		CI		
	:		LIGH W/FU		A		В		c	:	IT	EM	
NASA IOA	[3	/3]	[]	[[]	[]	[] *	
COMPARE	[N	/N]	[]	ſ]	[]	[]	
RECOMMEN	IDA'	TI	ons:	(If diff	ere	nt fro	om N	ASA)				
	[/	1	[)	[]	[]	[(ADD/I] DELETE	5)
* CIL RE	TE	NT:	ION :	RATI	ONALE:	(If	appli	.cab	•				
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REMARKS: FORWARD CHANGE I	MAI	NII	FOLD RCUI'	ISO	LATION SEE A	VAL SSE	VE #5 SSMENT	RE-	ANALY s FRC	ZED BY	IOA I 1X-110	OUE TO)

ASSESSMI ASSESSMI NASA FMI	ENT	. I	D		FRCS-7	84				N	NASA I BASEI]	
SUBSYST MDAC ID ITEM:		:			FRCS 784 RESIST	or,	5.1K	1/4%	1						
LEAD AN	ALY	(S)	r:												
ASSESSM	ENT	r:													
	CF				TY	RE	DUNDA	NCY	SCREE	NS			CIL	K	
		_			IC I	A		В		(C		112.	•	
NASA IOA	FLIG HDW/I NASA [/ IOA [3 /3			/ /3]	[]	[]	[]		[]	*
COMPARE		[]	N	/N	1	[]	[]	[]		[]	
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* CIL R		EN'	T]	EON I	RATION	ALE:	(If a	appl	icable		ADEQU. ADEQU.	ATE ATE	[]	
REMARKS FORWARD	M	AN:	II	FOLD	ISOLA'	TION SEE A	VALV	E #5 SMEN'	RE-AN	IAL FR	YZED CS 11	BY IO	DA D	UE 791	TO

ASSESSM ASSESSM NASA FM	ENT	I		FRO	CS-785					ASA DA BASELI N]	
SUBSYST MDAC ID ITEM:				FRO 785 RES	-	5.1	LK 1/4V	J					
LEAD AN	ALY	ST	:										
ASSESSM	ENT	:											
	CR				RI	EDUN	IDANCY	SCF	REENS		CI		
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COMPARE	ĺ	N	/N]	Į.]	[]	[]	[]	
RECOMME	NDA'	TIC	ons:	((If diff	fere	ent fro	m N	IASA)				
	[/]	[]	[]	[]	[(ADD/)	-	TE)
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REMARKS: FORWARD CHANGE	MAI	NII	FOLD RCUI	ISC TRY.	LATION SEE A	VAL SSE	VE #5 SSMENT	RE-	ANALY	ZED BY S 1100	IOA 1 1X-11	OUE !	ro •

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	FRCS-	786				N	IASA DA BASELI N	NE	[]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 786 RESIS	ror,	5.1K	1/4W	ı						
LEAD ANALYST:											
ASSESSMENT:											
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NASA [/ IOA [3 /]	[]	[]	[]		[] *	į
COMPARE [N /	4]	[]	[1	[]		[1	
RECOMMENDATION	S: (If	dif	feren	t fro	om NAS	SA)					
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REMARKS: FORWARD MANIFO CHANGE IN CIRC	LD ISOLA UITRY.	TION SEE	VALV ASSES	E #5 SMEN'	RE-AN I IDs	NAL FR	YZED BY CS 1100	/ I(OA DI -110	UE 1 79X.	0

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SUBSYST MDAC ID ITEM:				FRCS 787 RESIS	TOR,	5.1	LK 1/41	Ä						
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
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ASSESSME ASSESSME NASA FME	ENT	II		FRCS-7	88				ì		DATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				FRCS 788 RESIST	or,	1.2K	2W							
LEAD ANA	ALY	ST	;											
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ASSESSMEN ASSESSMEN NASA FME	NT	I		FRCS-	789				N	IASA D BASEI		[]	
SUBSYSTEM MDAC ID:	M:			FRCS 789 RESIS	ror,	1.2K	2W							
LEAD ANA	LY	ST	:											
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REMARKS: FORWARD M CHANGE IN	IAI V	VII CII	FOLD RCUIT	ISOLAT	TION SEE A	VALVE ASSESS	E #5 MENT	RE-AN	IALY FRC	ZED B S 110	Y IO 01X-	A DU	JE ' '9X	TO

ASSESSME ASSESSME NASA FME	ΝT	II		FRCS	5 - 790				1	NASA I BASEI		[_	
SUBSYSTE MDAC ID: ITEM:				FRCS 790 MAN	S [FOLD]	L, C	X & F	J IS	ol V	LV SW	гтсн			
LEAD ANA	LY	ST	:											
ASSESSME	NT	:												
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CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C													111	
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SUBSYSTE MDAC ID: ITEM:	M:			FRCS 791 MANIF	OL	D :	1, ox	: &	F	U IS	OL '	ΛΓ	V SWI	гсн			
LEAD ANA	LY	ST	:														
ASSESSME	NT	:															
	CR		ICAL: LIGH			R	EDUND	AN	CY	SCR	EEN:	S			CIL		
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SUBSYSTEM MDAC ID:				FRCS 792 MANIFO	LD) 1	, 03	⟨ &	FU	I IS	or 1	/LV	' SWIT	сн			
LEAD ANA	LYS	T:															
ASSESSME	NT:	:															
	CRI			ITY		RE	DUNI	DAN	CY	SCR	EEN:	S			CIL		
	F		JIGH V/FU			A			В			С					
NASA IOA	[[3	/ /2R]	[P]]	P]	[P]		[]	*
COMPARE	[N	/N]	[N]	[N	1	[N]		[]	
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SUBSYSTE MDAC ID: ITEM: CONTACTS	}	FRCS 793 MANIF	OLD	1, OX	. & F	U IS	or Ai	LV SWITCH	10	PE	N	
LEAD ANA	ALYST:											
ASSESSME	ENT:											
	CRITICAL FLIGH	T		EDUND	ANCY	SCR	EENS			IL TEN		
	HDW/FU	INC	A		В		C					
NASA IOA	[/ [3 /2R]	[[P]	[[F]	[[F]]	x]	*
COMPARE	[N /N]	[N]	[N]	[N]	[N]	
RECOMMEN	DATIONS:	(If	dif	feren	t fr	om NA	ASA)					
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SUBSYSTEMDAC ID: ITEM: CONTACTS				FRCS 794 MANIF	OLD	1, OX	ζ & F	u iso	L VI	V SWI	гсн	OPE	N	
LEAD ANA	LYS	ST	:											
ASSESSMENT: CRITICALITY PEDINDANCY SCREENS CIL														
CRITICALITY REDUNDANCY SCREENS CIL ITEM														
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NASA IOA	[3	/3]		[]	*						
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RECOMMEN	DA!	rI	ons:	(If	dif	ferer	nt fr	om NA	SA)					
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REMARKS: MANIFOLD ANALYZED					ND F ASSE	UEL I	ISOL?	ATION Os FRO	VALV	/E SWI L095X-	TCH 110	30 99X.	RE-	•

ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	-795]	NASA D. BASEL		[]	
SUBSYSTE MDAC ID: ITEM: 3, 4			FRCS 795 MANI	FOLD	1, 0	X & :	FU IS	OL V	LV SWI	тсн	GPC	CON	PACTS
LEAD ANA	LYS	r:											
ASSESSME	NT:												
	CIL												
	CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B											M	
NASA IOA	[:	3 /3]	[[]]		[] *				
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ANALYZED	BY	IOA.							L095X-			<u> </u>	

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SUBSYSTEM MDAC ID: ITEM: 3, 4	M:		FRCS 796 MANIFO	DLD 1	L, ox	& FU	J ISOI	Z VLV	SWITCH	GPC	CONTACTS			
LEAD ANA	LYST	:												
ASSESSME	SESSMENT: CRITICALITY REDUNDANCY SCREENS CIL													
•	FLIGHT													
NASA IOA	FLIGHT HDW/FUNC A B C NASA [/] [] []													
COMPARE	[N	/N	3	[]	[]	[1	[]			
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SUBSYSTE MDAC ID: ITEM: CONTACTS		, (6	FRCS 797 MANI		1, (OX & F	J IS	SOL VI	LV SWIT	СН	CLC	SE	
LEAD ANA	LYS	ST:	:											
ASSESSME	NT:	;												
	CR1		CAL LIGH	ITY T	R	EDU	NDANCY	SCR	REENS			CIL	_	
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NASA IOA		3	/ /3]	[]	[]	[]]]	*
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ANALYZED				SEE	ASSES	SSME	ENT IDS	FR	CS 11	095X-1	сп 109	9X.	KL-	

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SUBSYSTEM: MDAC ID: ITEM: CONTACTS 5,	. 6		FRCS 798 MANIFO	LD	1	, ox	&	FU	ISOL	, V	ĽV	SWITCH	CLO	SE	
LEAD ANALYS	T:														
ASSESSMENT:	:														
CRI	[TIC				RE	DUNDA	NC	CY	SCREE	ENS	3		CIL		
ŀ	FLI /WDH				A			В			С				
NASA [] AOI	3 /	2R]	[P]	[F]	[P]	[[X	[:]	*
COMPARE [N /	'N	1	[N]	[N]	[N]	[N	i]	
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REMARKS: MANIFOLD 1 ANALYZED B	., O	XID	IZER A	ND AS	F SE	JEL I SSMEN	SO T	LA ID	TION s FRC	VA S	LV 11	E SWITCH 095X-110	30 99X	RI	E-

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SUBSYST MDAC ID ITEM:				FRO 799 MA N	_	2,	OX & 1	FU I	SOL V	LV SW	ІТСН	Ī		
LEAD AN	ALY	ST	':											
ASSESSM	ENT	:												
		F	LIG	łT		EDUI	NDANCY	sci	REENS			CI	L EM	
		HD	W/FU	JNC	A		E	3	(С			EFI	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-800)		NASA DAT BASELIN NI		_
DODD	FRCS 800 MANIFOLI	o 2, ox	& FU ISO	L VLV SWITC	СН	
LEAD ANALYST:						
ASSESSMENT:						
CRITICAL		REDUND	ANCY SCRE	ENS	CII ITE	
FLIGH HDW/FU		A	В	С		JA 1
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COMPARE [N /N] [и ј	[и]	[N]	[]
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REMARKS: MANIFOLD 2, OXII ANALYZED BY IOA.	DIZER AND SEE AS	FUEL I SESSMEN	SOLATION T IDs 111	VALVE SWIT .00X-11104X	CH 31	RE-

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SUBSYSTEMDAC ID		FRCS 801 MANIFOLD) 2, OX	& FU ISO	OL VLV SWITC	:H	
LEAD AND	ALYST:						
ASSESSMI	ENT:						
	CRITICAL: FLIGH		REDUND	ANCY SCRE	EENS	CII	_
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SUBSYSTEM MDAC ID: ITEM: CONTACTS		, 2		FRC 802 MAN		D	2	, 0	X	&	FU	IS	SOL	VI	LV S	WIT	СН	OP	EN		
LEAD ANA	LYS	ST:	:																		
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* CIL RE	TE	NT	NOI	RAT:	IONA	LE	:	(I:	fa	p	pl.	ica				QUA!		_]	
REMARKS: MANIFOLD ANALYZED	` ~	, SY	OXII	DIZE:	R AN EE A	D SS	FU ES	JEL SSM	IS ENT	50 [LA ID	TIO s 1	N V.	AI XO	VE (-11	SWI'	rch X.	31	L]	RE	-

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SUBSYSTE MDAC ID: ITEM: CONTACTS				FRCS 803 MANIF	OLD	2, 0	X & F	U ISO	OL VI	LV SWI	тсн	OP	EN	
LEAD ANA	LYS	ST:												
ASSESSME	NT:	:												
	CRI		CAL	ITY r	R	EDUN	DANCY	SCRE	ENS			CI:		
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NASA IOA	[3	/ /3]	[]]]	[]		[]	*
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SUBSYSTE MDAC ID: ITEM: 3, 4	M:			FRCS 804 MANIFO	OLD 2	SWITCH	GPC	CONTACTS				
LEAD ANA	LYS	T:	;									
ASSESSME	NT:											
		. — –		ITY	RI	EDUNDA	ANCY	SCREE	ens		CIL	
			IGH V/FU		A		111	M				
NASA IOA	[3	/3]	[]	[]	[]	[] *
COMPARE	[N	/N]	[]	[]	[]	[]
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ASSESSME ASSESSME NASA FME	NT ID:	FRCS-	805]	NASA DAT BASELIN NE		
SUBSYSTE MDAC ID: ITEM: 3, 4		FRCS 805 MANIF	OLD	2, 0	X & :	F U IS	OL V	LV SWITC	H GPC	CONTACTS
LEAD ANA	LYST:									
ASSESSME	NT:									
	CRITICAL FLIGH		R	EDUN	DANC'	Y SCR	EENS		CIL	
	HDW/FU		A	•	1	В	(2	ITE	M
NASA IOA	[3 /3]	[]	[]	[]	[] *
COMPARE	[N /N]	[]	[]	[1	(]
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ANALYZED	BY IOA.	SEE 2	ASSE	SSME	II TV)s 11	100X-	·11104X.		

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SUBSYSTEMDAC ID: ITEM: CONTACTS		, (FRCS 806 MANIFO	LD 2	, ox	& FU	ISOL	, V]	LV SWIT	СН	CLO	SE	
LEAD ANA	LYS	ST	:											
ASSESSME	NT:	:												
	CR:			ITY	RE	DUND	ANCY	SCREE	ens			CIL		
	1		LIGH W/FU	T NC	A		В		(С				
NASA IOA]	3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	ſ]	[1		(]	
RECOMMEN	'DA'	TI	ons:	(If	dif:	feren [.]	t fr	om NAS	SA)					
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REMARKS: MANIFOLE ANALYZEE	1 2	Ý	OXII	DIZER A	ND F ASSE	UEL I SSMEN	SOLA T ID	TION TION	IAV KOO	VE SWIT	rch X.	31	RE	-

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-807	,		NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 5, 6	FRCS 807 MANIFOLD	2, OX	& FU ISC	DL VLV SWITCH	f CLOSE
LEAD ANALYST:					
ASSESSMENT:					
CRITICAL: FLIGHT	ITY I	REDUND	ANCY SCRE	EENS	CIL ITEM
HDW/FU	1C	A	В	С	
NASA [/ IOA [3 /2R] [P]	[] [F]	[] [P]	[] * [X]
COMPARE [N /N] [и ј	[N]	[N]	[и]
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MANIFOLD 2, OXIDI ANALYZED BY IOA.	ZER AND I	FUEL IS ESSMENT	OLATION '	VALVE SWITCH 00X-11104X.	31 RE-

ASSESSME ASSESSME NASA FME	NT I	D:		-808					ASA I BASEI		[]	
SUBSYSTEMDAC ID:	M:		FRCS 808 MANI	FOLD	3, 0	K & F	u Is	OL VI	v swi	тсн			
LEAD ANA	LYSI	C:											
ASSESSME	NT:												
			LITY	F	REDUN	DANCY	SCR	EENS			CII		
	_	FLIGI OW/F	UNC	A	\	F	3	c	:				
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COMPARE	[]	и /и]	[]	ĺ]	[]		[]	
RECOMMEN	DAT:	IONS	: (]	f di	ffere	nt fi	rom N	ASA)					
	(,	/	1	[]	[]	[]	(A	[I\dd) DEL	ETE)
* CIL RE	TEN	TION	RATIO	ONALE	: (If	app:	licab	2	ADEQU ADEQU		_]	
REMARKS: MANIFOLI	3,	OXI E AS	DIZER SESSM	AND I	FUEL Ds FR	ISOL	ATION 1105}	VAL'	VE SW	ITCH	RE-	-AN	ALYZED

ASSESSME	INT DATE:	EDGG 04						A DATA		
NASA FME		FRCS-80) 9				ВА	SELINE NEW]
SUBSYSTE MDAC ID: ITEM:		FRCS 809 MANIFOI	: סב	3, ox	&]	TU IS	OL VLV	SWITCH		
LEAD ANA	LYST:									
ASSESSME	NT:									
	CRITICAL:		RI	EDUNDA	WC?	SCR	EENS		CIL	
	HDW/FU		A		F	3	С		115	М
NASA IOA	[/ [3 /2R] [P]	[[E)	[] [P]		[] *]
COMPARE	[и/и] [N]	[]	1]	[N]		[]
RECOMMEN	DATIONS:	(If d	liff	erent	fr	om N	ASA)			
,	[/) [1	[]	[]	(AI	[DD/DI] ELETE)
* CIL RE	TENTION I	RATIONAL	E:	(If a	ppl	icab				
REMARKS:								QUATE QUATE	[]
MANIFOLD BY IOA.	3, OXIDI	ZER AND ESSMENT	FU IDs	EL IS	OLA 11	TION 105X-	VALVE :	SWITCH	RE-A	ANALYZED

ASSESSMENT D ASSESSMENT I NASA FMEA #:	D:	FRCS-810						ASA DATA: BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:		FRCS 810 MANIFOLD	3	, ox	& FU	J ISOI	. VL	V SWITCH			
LEAD ANALYST	r:										
ASSESSMENT:											
		TY	RE	DUNDA	NCY	SCREE	ENS		CIL	ſ	
	FLIGHT OW/FUN	iC	A		В		C		112.	•	
NASA [IOA [/ 3 /2R] [P]	[[P]	[[P]	[] *	
COMPARE []	N /N] [N	1	[N]	[N]	1]	
RECOMMENDAT	ions:	(If di	lff	erent	fr:	om NAS	SA)				
· c	/] [)	(]	[] (A	[DD/DI] ELETE)	
* CIL RETEN	TION I	RATIONALI	Ξ:	(If a	ppl	icable	e) A Ina	DEQUATE	[]	
REMARKS: MANIFOLD 3, BY IOA. SE	OXID E ASSI	IZER AND ESSMENT	FU IDs	JEL IS	SOLA S 11	TION TION	VALV	E SWITCH	RE-	ANALYZE	D

ASSESSMENT DATE:		NAS.	A DATA:
ASSESSMENT ID: NASA FMEA #:	FRCS-811	BA	SELINE [] NEW []
MDAC ID:	FRCS 811 MANIFOLD 3, OX	& FU ISOL VLV	SWITCH OPEN
LEAD ANALYST:			
ASSESSMENT:			
CRITICALI FLIGHT		ANCY SCREENS	CIL ITEM
HDW/FUN	IC A	в с	* * * * * * * * * * * * * * * * * * *
NASA [/ IOA [3 /2R] []] [P]	[] [] [F]	[] * [x]
COMPARE [N /N] [N]	[N] [N]	[N]
RECOMMENDATIONS:	(If differen	t from NASA)	
[/] []	[] []	[] (ADD/DELETE)
* CIL RETENTION F	RATIONALE: (If a	·	
REMARKS:			QUATE [] QUATE []
MANIFOLD 3, OXIDI	ZER AND FUEL IS	SOLATION VALVE S	WITCH RE-ANALYZED

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				nasa da Baseli 1]						
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	FRCS 812 MANIFOLD	3, OX &	FU ISO	L VLV SWI	гсн ор	EN						
LEAD ANALYST:												
ASSESSMENT:												
CRITICA		EDUNDANC	Y SCRE	ENS	CI							
FLIGHT REBONDANCE BENEZENS FLIGHT HDW/FUNC A B C												
NASA [/ IOA [3 /3] [] []	[]	[[] *]						
COMPARE [N /N] [] []	[]	ſ]						
RECOMMENDATIONS	: (If dif	ferent i	rom NA	ASA)								
(/] [] []	[]	[(ADD/] 'DELETE)						
* CIL RETENTION	RATIONALE:	(If app	plicab	.e) ADEQUA INADEQUA]						
REMARKS: MANIFOLD 3, OXI BY IOA. SEE AS	DIZER AND F SESSMENT ID	UEL ISO	LATION 11105X-	VALVE SWI -11109X.	TCH RE	E-ANALYZED						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-813	NASA DATA: BASELINE [] NEW []											
SUBSYSTEM: MDAC ID: ITEM: 3, 4	FRCS 813 MANIFOLD 3,	OX & FU IS	OL VLV SWITC	H GPC	CONTACTS								
LEAD ANALYST:													
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
HDW/FU		В	С	IIE.	M								
NASA [/ IOA [3 /3] []	[]	[]	[] *]								
COMPARE [N /N] []	[]	[]	[1								
RECOMMENDATIONS:	(If differ	rent from N	ASA)										
[/] []	[]	[]] ELETE)								
* CIL RETENTION	RATIONALE: (I	f applicab	ADEQUATE]								
REMARKS: MANIFOLD 3, OXID BY IOA. SEE ASS				•	J ANALYZED								

ASSESSMEN ASSESSMEN NASA FME	T	ID		FRCS-8	314				_	SA DATA: ASELINE NEW]		
SUBSYSTEM MDAC ID: ITEM: 3, 4	1:			FRCS 814 MANIFO	OLD 3	s, ox	& FU	ISOL	, VLV	switch	GPC	CONTACTS		
LEAD ANA	LYS	T:												
ASSESSME	NT:	;												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM														
	F	FLIGHT HDW/FUNC A B C												
NASA IOA	[3	/3]	A B C [] [] * [] [] *									
COMPARE	[N	/N]	C]	[]	[]	C]		
RECOMMEN	DA!	ri	ons:	(If	dif	feren	t fr	om NAS	SA)					
	[/]	[]	[]	[] (A	[DD/D] ELETE)		
* CIL RE	TE:	NT	ION	RATION	ALE:	(If	appl	icabl	A	DEQUATE DEQUATE]		
REMARKS: MANIFOLI BY IOA.	3	, EE	OXII ASS	DIZER A	ND F	UEL I s FRC	SOLA S 11	TION 105X-	VALV 1110	E SWITCH 9X.	H RE-	ANALYZED		

ASSESSMI ASSESSMI NASA FMI		FRCS-	815]	NASA DA BASELI N]	
SUBSYSTE MDAC ID: ITEM: CONTACTS	;	FRCS 815 MANIF	OLD	3, OX	(& F	TU IS	OL VI	LV SWIT	CH CIA	OSE	
LEAD ANA	ALYST:										
ASSESSME	ENT:										
	CRITICAL FLIGH		R	EDUND	ANCY	SCRI	EENS		CII	_	
	HDW/FU	:	TIL	.P1							
NASA IOA	[3 /3]	[]	[]	[]	[] *	
COMPARE	[N /N]	[]	[]	[]	[]	
RECOMMEN	DATIONS:	(If	dif:	feren	t fr	om NA	SA)				
	[/]	[3	[]	[] ([ADD/D		Ξ)
* CIL RE	TENTION I	RATIONA	LE:	(If	appl	icabl	e)				
REMARKS:							INA	DEQUATE DEQUATE	į]]	
MANIFOLD BY IOA.	3, OXIDI SEE ASSE	ZER AN ESSMENT	D FU	JEL IS FRCS	SOLA:	rion 105x-	VALV: 1110:	E SWITC	H RE-	ANALY	ZEI

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-816		NASA DATA: BASELINE NEW	
	FRCS 816 MANIFOLD 3,	OX & FU ISOL	VLV SWITCH	CLOSE
LEAD ANALYST:				
ASSESSMENT:				
		UNDANCY SCREE	NS .	CIL
FLIGH HDW/FU		В	С	
NASA [/ IOA [3 /2R	[P]	[] [F]	[] [P]	[x] *
COMPARE [N /N] [N]	[N]	[и]	[N]
RECOMMENDATIONS:	(If diffe	erent from NAS	A)	
[/] []	[]	[] (A)	[] OD/DELETE)
* CIL RETENTION	RATIONALE: () ADEQUATE INADEQUATE	
REMARKS: MANIFOLD 3, OXII BY IOA. SEE ASS	DIZER AND FUE SESSMENT IDS	EL ISOLATION V FRCS 11105X-1	ALVE SWITCH	RE-ANALYZED

ASSESSME ASSESSME NASA FME	D:	FRCS-	·817				1	NASA D BASEL		[]		
SUBSYSTEMDAC ID:	M:		FRCS 817 MANIF	'OLD	4, 0	X & 1	~U IS	OL V	LV SWI	гсн			
LEAD ANA	LYSI	?:											
ASSESSMEI	NT:												
('ICAL 'LIGH		R	EDUN	DANCY	SCR	EENS			CIL		
	HD	W/FU	NC	A		E	2	1111					
NASA IOA	[3	/3]]]	[]	[]		[]	*
COMPARE	[N	/N]	[1	C)	[]		[]	
RECOMMEN	DATI	ons:	(If	dif	ferer	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(AD	[D/DI] ELE	TE)
* CIL RET	ENT	ION I	RATION	ALE:	(If	appl	icab	-					
REMARKS:									DEQUAT DEQUAT		[]	
MANIFOLD ANALYZED	4, BY	OXIDI	ZER AI SEE A	nd fi Asse:	JEL I SSMEN	SOLA T ID	TION s FRO	VALV CS 11	E SWIT 110X-1	СН 111	33 F 4X.	₹E-	

ASSESSME	ASSESSMENT DATE:									NASA DATA:							
	ASSESSMENT ID: FRCS-818 NASA FMEA #:											E	BASE	LINE NEW	-	_	
SUBSYSTEMDAC ID:				FRCS 818 MANIF	OLI) 4	١,	ox &	FI	u Is	OL V	7LV	/ SW	ІТСН			
LEAD ANA	\LY:	ST	:														
ASSESSMI	SSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL																
	CR					RI	EDU	JNDAN	CY	SCR	EENS	3			CIL		
	1	_		LIGHT								С			111	M	
NASA IOA	[3	/ /2R								[]	*				
COMPARE	[N	/N]	[N]	[N]	[N]		[]	
RECOMME	NDA	TI	ons:	(If	đ	if	fer	rent	fr	om N	ASA))					
	(/]	[]	[]	[]	(A	[DD/E)ELJ	ETE)
* CIL R	ETE	NT	ION	RATION	AL	Ε:	()	If ap	pl	icab				ATE ATE]	
REMARKS			AVTD	ב ממוס	MP	1 21	י ישר ז	r tea	T >	TT (N						•	_
MANIFOLI ANALYZE					AS:	rı SE	SS)	MENT	ΙD	s FR	CS :	11:	110X	-111	14X.		
		_	_~														

ASSESSMENT DATE: ASSESSMENT ID: FRCS-819 NASA FMEA #:															DATA LINE NEW]	
SUBSYSTIMDAC ID:				FRCS 819 MANIFO	ΟL	D 4	1, 0	ОX	&	FU	J IS	OL '	VĽ	v sw	итсн			
LEAD AND	ALY	ST	:															
ASSESSMI	SSESSMENT:																	
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM																		
	;	HD	W/FU	r NC A B C														
NASA IOA	[3	/ /2R]	[P]] [P]] [P]		[]	*
COMPARE	[N	/N	J	[N]		[N)	[N]		[)	
RECOMMEN	NDA'	TI	ons:	(If	d:	ifí	ere	ent	f	rc	om N	(ASA))					
	[/]	[]		[]	[]	(AI	[DD/D] ELF	TE)
* CIL RI	ETE	NT:	ION 1	RATIONA	LI	Ξ:	(If	: a	þŗ	ol i	.cab		AI	DEQU	ATE ATE	[]	
REMARKS:																•	_	
MANIFOLI ANALYZEI) 4	, (OXID:	ZER AN	ID	FU	JEL	IS	OI T	AI	'ION	VAI	LVI	E SW	ITCH	33	RE-	•
WINNTIGE	, ס	I.	TOW.	oce P	725	ುದಿರ	ome	T.M.T.	T	. US	rk	CS .	LLJ	ΓΤΟΧ	-111	L4X.		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-820			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	FRCS 820 MANIFOLD	FU ISOL	VLV SWITCH	OPEN	
LEAD ANALYST:					
ASSESSMENT:					
CRITICAI FLIGH		REDUNDAI	NCY SCREE		CIL ITEM
HDW/FU	INC	A	В	С	
NASA [/ IOA [3 /2F] [] P]	[] [F]	[] [P]	[X] *
COMPARE [N /N] [и]	[и]	[N]	[N]
RECOMMENDATIONS	(If di	fferent	from NAS	A)	
[/] [3	[]	[] (A)	[] DD/DELETE)
* CIL RETENTION	RATIONALE	: (If a	pplicable	a) ADEQUATE INADEQUATE	
REMARKS: MANIFOLD 4, OXI	חמג משקדר	FILET. TS	отаттом у	VALVE SWITCH	33 RE-
ANALYZED BY IOA		ESSMENT	IDs FRCS	11110X-111	14X.

ASSESSME ASSESSME NASA FME	CNT	I			CS-821				1		DATA ELINE NEW	[]	
SUBSYSTEM: FRCS MDAC ID: 821 ITEM: MANIFOLD 4, OX & FU ISOL VLV SWITTED CONTACTS 1, 2 LEAD ANALYST:												OP	EN	
LEAD ANA	LY	ST	:											
ASSESSME	'nТ	:												
	CR		ICAI LIGH	ITY T	RI	EDUN	NDANCY	SCR	EENS			CI	L EM	
	1	HDI	W/FU	NC	A									
NASA IOA	[3	/3]]]	[[]	[[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	'DA'	ric	ons:	:	(If diff	ere	ent fr	om N	ASA)					
	[/	1	ι]	[]	[]	(AD	[D/) DELE	TE)
* CIL RE	TE	NT:	ION	RAT	IONALE:	(If	appl	icab	P	ADEQU	JATE JATE	[]	
REMARKS: MANIFOLD									VALV	Æ SW	ITCH	33	RE-	

ASSESSME ASSESSME NASA FME	NΤ	II			5-822					ASA DATA: BASELINE NEW]	
SUBSYSTEM: FRCS MDAC ID: 822 ITEM: MANIFOLD 4, OX 3, 4 LEAD ANALYST:							(& F	U IS	OL VL	V SWITCH	GPC	CONTACTS	
LEAD ANA	LYS	ST	:										
ASSESSME	SSESSMENT:												
	CRITICALITY REDUNDANCY SCREENS CIL ITEM												
	01/2120111											•	
NASA IOA	[3	/ /3]	[]	[] *					
COMPARE	[N	/N]	[]	[]	ſ]	[]	
RECOMMEN	IDA'	TI	ons	: (If diff	erei	nt fi	com N	ASA)				
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* CIL RI	ETE:	NT	ION	RATI	ONALE:	(If	app]	licab	P	ADEQUATE ADEQUATE]]	
REMARKS: MANIFOLI ANALYZEI	4				AND FU E ASSES	JEL SSME	ISOLA NT II	ATION Ds FR	VALV	/E SWITCH L110X-111	33 14X.	RE-	

ASSESSME NASA FME	ENT	ID:	-	S-823		NASA DATA: BASELINE [] NEW []							
SUBSYSTE MDAC ID: ITEM: 3, 4			FRCS 823 MAN	_	4, 0	OX & :	FU IS	SOL V	LV SWI	тсн	GPC	CONTA	CTS
LEAD ANA	LYS'	r:											
ASSESSME	NT:												
		FLIG	LITY HT	1	REDUN	IDANC'	Y SCR	EENS			CIL		
				r NC A B C								M	
NASA IOA	[:	3 /3]] [] [] []] *	
COMPARE	[]	N / N]	[]	[]	[]		[]	
RECOMMEN	DAT	CONS	: (1	f dif	ffere	nt fi	rom N	ASA)					
	[/	3	[]	ĺ]	(]	(AI	[DD/D] ELETE)	
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REMARKS:								INA	DEQUA'	TE TE	[]	
MANIFOLD ANALYZED	4, BY	OXII	DIZER SEE	AND F	TUEL ESSME	ISOL!	ATION Os FR	VALV	'E SWI'.	ГСН 1111	33 1 4X.	RE-	

ASSESSMEN ASSESSMEN NASA FME	TN	II		FRCS-8	24					SA DA' BASELII NI	NE]	
SUBSYSTEMDAC ID: ITEM: CONTACTS				FRCS 824 MANIFO	OLD 4	4, ox	& FU	ISOI	, ATA	/ SWIT	СН	CLOS	3E	
LEAD ANA	LYS	ST	:											
ASSESSME	NT	:												
	CR:			ITY	RI	EDUND#	NCY	SCREE	ens			CIL		
]		LIGH W/FU	NC	A		В		С					
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[1	[]	[]		[]	
RECOMMEN	DA'	TI	ons:	(If	dif:	ferent	t fro	om NAS	SA)					
	[/	1	[]	[]	[]	(AI	[DD/D] ELF	ETE)
* CIL RE	TE	NT	ION	RATION	ALE:	(If a	appl	icable	A	DEQUAT DEQUAT]	
REMARKS: MANIFOLD ANALYZED	4			IZER A	ND F	UEL IS	SOLA'	rion v	VALV	E SWIT 110X-1	CH 11	33 14X.	RE-	-

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NASA FME									NEW	_]	
SUBSYSTEM MDAC ID: ITEM: CONTACTS		FRCS 825 MANIFOL	D (4, OX	& F	U ISO	L V	LV SW	ІТСН	C:	LOS	SE	
LEAD ANAI	LYST:												
ASSESSMEN	NT:												
c	CRITICAL FLIGH		RI	EDUND	ANCY	SCRE	ENS				IL FEN	<i>T</i>	
	HDW/FU		A		В			С		-		•	
NASA IOA	[/ [3 /2R] [P]	[[F]	[] P]		[x]	*
COMPARE	[N /N] [N]	[N]	[и ј		[N]	
RECOMMEND	ATIONS:	(If d	ifi	ferent	t fr	om NAS	SA)						
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* CIL RET	ENTION 1	RATIONAL	E:	(If a	appl	icable	•			_			
REMARKS:								ADEQU <i>A</i> ADEQU <i>A</i>		[]	
MANIFOLD ANALYZED	4, OXID	ZER AND	FU	JEL IS	OLA:	ZON T	/AL	VE SWI	тсн	33	F	₹E-	•
UMADIAED	DI TOW.	SEE AS	JES	OWTU	r TDS	s rkc) T	TTTOX-	. T T T]	42			

ASSESSME ASSESSME NASA FME	NT	ID		FRCS-	-826				ì	NASA DAT BASELIN NI	1E	[]	
SUBSYSTE MDAC ID: ITEM:				FRCS 826 MANIE	FOLD 5	s, ox	& F	J ISOL	. V I	LV SWITC	СН			
LEAD ANA	LYS	ST:	:											
ASSESSME	NT:	:												
	CR				RI	EDUND	ANCY	SCREE	ens			CIL		
	1		JIGH V/FU	NC NC	A		В		(С				
NASA IOA	[3	/]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[1	[]	[]		[]	
RECOMMEN	NDA'	TI(ons:	(I:	f dif	feren	nt fr	om NAS	SA)					
	[/]	[]	[]	[]	(Al	[DD/D		ETE)
* CIL R	ETE:	NT	ION	RATIO	NALE:	(If	appl	icable		ADEQUAT ADEQUAT		-]	
REMARKS FORWARD CHANGE	MA	NI CI	FOLI RCUI	ISOL	ATION SEE	VALV ASSES	/E #5	RE-A	NAI FR	YZED BY	I 1X	OA D)UE)79]	ТО Х.

ASSESSM	ASSESSMENT DATE: ASSESSMENT ID: FR NASA FMEA #: SUBSYSTEM: FR														DAT. ELIN NE)]	
SUBSYST MDAC ID ITEM:				FRCS 827 MANIF	OL	D	5,	ox (S _e	FU	JI	SOL	ΛΓ	v si	VITC	Н			
LEAD AN	ALY	ST	:																
ASSESSMI	ENT	:																	
		F	ICAL LIGH W/FU			RI A	EDU:	NDAI		Y	sc	REEN	s c			CI IT	L EM		
WA CA	_			_	_		_			_	_								
NASA IOA		3	/ /2R]	[P]			P]	[P]		[]	*	;
COMPARE	[N	/N]	[N]	(•	N]	ſ	N]		[]		
RECOMMEN	IDA	TI	ons:	(If	d:	if	fer	ent	f	rc	om 1	NASA)						
	[/]	[)	(•]	[]	(Z	[ADD/1	DEL	ΈT	'E)
* CIL RE	TE	NT:	ION I	RATION	\LI	3:	(I 1	f ap	p	li	.cal	ble)							
REMARKS:												I			ATE ATE]		
FORWARD CHANGE I	MA	NI) CI)	FOLD RCUII	ISOLAT	PIC SEI	ON E A	VAI SSI	LVE Essm	#! [E]	5 VT	RE-	-ANAI Ds Fi	LYZ	ED	BY I	OA 1	DUE 079	т х.	0

ASSESSME	ASSESSMENT DATE: ASSESSMENT ID: FRCS- NASA FMEA #: SUBSYSTEM: FRCS														DATA LINI NE	E		-	
SUBSYSTE MDAC ID:				FRCS 828 MANI		5	;,	ox	&	FU	IS	OL '	VĽ	7 SV	VITC:	н			
LEAD ANA	LYS	ST	:																
ASSESSMI	ENT	:																	
	CR		ICAL LIGH	ITY T		RF	EDU	NDA	NC	Y	SCF	REEN					CIL		
	1	HDI	W/FU	NC		A				В			С						
NASA IOA	[3	/ /2R]	[[P]		[P]	[[P]			[]	*
COMPARE	[N	/N]	[N]		[N]	[N]			[]	
RECOMME	NDA'	TI	ons:	(I	f di	fí	fer	ent	: 1	fro	om 1	NASA)						
	[/]	[3		[]	ξ]	(ΑI) DEL	ETE)
* CIL R	ETE:	NT:	ION	RATIO	NALE	E:	(1	f a	pp	01:	ical		A NA	DEQI	UATE UATE	;	[]	
REMARKS FORWARD CHANGE	MA	NI CI	FOLD R C UI	ISOI TRY.	ATIC SEE	ON E 1	VA ASS	LVI	E †	‡5 ≘N′:	RE-	-ANA	LY:	ZED	ву	I	DA I	OUE	TO X.

ASSESSME ASSESSME NASA FME	NT	II		FRCS-8	329					ASA DA BASELI N	NE]	
SUBSYSTE MDAC ID: ITEM: CONTACTS		2		FRCS 829 MANIFO	OLD 5	5, ox	& FU	J ISOI	r Ar	V SWIT	'CH	OPE	N	
LEAD ANA	LYS	T:	:											
ASSESSME	NT:													
			[CAL] LIGH		RI	EDUNDA	NCY	SCREE	ens			CIL		
				NC	A		В		С			TIE	*1	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DAT	'IC	ons:	(If	difi	erent	fro	om NAS	SA)					
	[/]	[]	[]	(]	(AI	[DD/DI] ELE	TE)
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REMARKS:									INA	DEQUAT	E		j	
FORWARD I										ZED BY S 1100				

ASSESSME ASSESSME NASA FME	TN	II		FRCS-8	330					ASA DA BASELI N	NE]	
SUBSYSTE MDAC ID: ITEM: CONTACTS	;			FRCS 830 MANIFO	OLD 5	5, ox	& FU	J ISOI	. VL	V SWIT	СН	OPEI	Ŋ	
LEAD ANA	LY	ST	:											
ASSESSME	ENT	:												
	CR			ITY	RI	EDUNDA	ANCY	SCREE	ENS			CIL		
	1		LIGH W/FU	NC	A		В		С			1111	•	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
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SUBSYSTE MDAC ID: ITEM: 3, 4			FRCS 831 MANII	FOLD	5, 0	X & 1	FU IS	SOL V	LV SWI	тсн	GPC	CONTACT	s
LEAD ANA	LYS	T:											
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		TICAL FLIGH	ITY	1	REDUN	DANC	Y SCR	EENS			CIL	_	
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SUBSYSTE MDAC ID: ITEM: 3, 4	M:			FRCS 832 MANIFO	LD 5	, ox	& FU	ISOL	VLV	SWITCH	GPC	CONTACTS
LEAD ANA	LYS	T:										
ASSESSME	NT:	;										
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ASSESSMEN	T:																
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NASA IOA	[3	/ /2R]]	P]]	F]	[P]		[x]	*
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LEAD ANA	LEAD ANALYST:													
ASSESSMENT:														
	CR			YTI	RE	DUNDA	MCA	SCREE	ens		CIL			
	FLIGHT HDW/FUNC				A		В		(2				
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FORWARD	INADEQUATE [] REMARKS: FORWARD MANIFOLD ISOLATION VALVE #5 RE-ANALYZED BY IOA DUE TO CHANGE IN CIRCUITRY. SEE ASSESSMENT IDS FRCS 11001X-11079X.													

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-837		NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM: 9, 10	FRCS 837 MANIFOLD 5,	OX & FU ISOL	VLV SWITCH	GPC CONTACTS
LEAD ANALYST:				
ASSESSMENT:				
CRITICAL: FLIGHT		NDANCY SCREEN	ıs	CIL
HDW/FU	IC A	В	С	ITEM
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FORWARD MANIFOLD CHANGE IN CIRCUIT	ISOLATION VAI RY. SEE ASSE	LVE #5 RE-ANAI	LYZED BY IO	A DUE TO

ASSESSMENT D ASSESSMENT I NASA FMEA #:	FRCS-8	38							ì		SA DATA: ASELINE NEW	[]		
SUBSYSTEM: MDAC ID: ITEM: 9, 10		FRCS 838 MANIFO	LD	5	, ox	&	FU	IS	OL	V.	LV	SWITCH	GP	C	CO	NTACTS
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ASSESSMENT:	CIL.															
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	FLIGHT HDW/FUNC										С					
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LEAD AN	AL	(SI	:										
ASSESSM	ENT	?:											
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RECOMMEN	IDA	TI	ons:	(1	f dif	fere	nt fr	om N	ASA)				
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REMARKS:									INA	DEQUATI DEQUATI	js]	
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ASSESSMENT DA ASSESSMENT ID NASA FMEA #:		40		NASA DATA: BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 11,		LD 5, OX	& FU ISOI	. VLV SWITCH	CLOSE								
LEAD ANALYST:													
ASSESSMENT:													
	CALITY LIGHT	REDUNDA	NCY SCREE		CIL ITEM								
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REMARKS: FORWARD MANIE CHANGE IN CIE	FOLD ISOLAT	TION VALVI	E #5 RE-Al SMENT IDS	NALYZED BY I FRCS 11001X	OA DUE TO -11079X.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-841 03-2F-103	350 -2			[[X]
	FRCS 841 FU TK ULL	AGE PRESS	SENSOR			
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
CRITICALI FLIGHT	<u> </u>	EDUNDANCY			CIL ITEM	Ī
HDW/FU	IC A	В	С			
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LEAD ANA	ALYS	ST	:		D.	HAF	(T)	(A)	1													
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SUBSYSTI MDAC ID: ITEM:			FRO 843 FU	-	UT	PRE	ESS	SE	NSOF	R					
LEAD ANA	ALYS	T:	D.	HART	MA	N									
ASSESSME	ENT:														
		TICA FLIG DW/F			RI A	EDUN	IDAN	CY B	SCF	REENS			CI:		
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SUBSYSTE MDAC ID:				FRO 84 FU	4	ΟŪ	JΤ	PRES	ss	SE	NS	OR									
LEAD ANA	LYS	T:		D.	HAR	TN	IAN	Ī													
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 845 OX TK ULL	AGE PRE	SS SENS	OR		
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
CRITICAL: FLIGHT	r	EDUNDAN			CIL ITEM	1
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NASA [3 /2R IOA [3 /3] [P] [P]	[P] []	[[] *
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SUBSYSTE MDAC ID: ITEM:			FRCS 846 OX TK	ULLA	.GE	PRESS	SENSO	ıR			
LEAD ANA	LYSI	:	D. HAF	RTMAN	ľ						
ASSESSME	NT:										
	F	rical:	r		DUN	IDANCY	SCREE			CII ITH	
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REMARKS:		י שיחדע	NASA FI	MEΔ.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-847	350 - 2		BASELINE NEW	-]
	FRCS 847 OX TK OUT	PRESS SE	NSOR			
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
CRITICALI FLIGHT HDW/FUN	r	EDUNDANCY B	SCREENS C		CIL	ı
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NASA FMEA #:	03-2F-103370	-1	BASELINE [] NEW [X]
MDAC ID:	FRCS 849 FU PRESS LINE	C (NEAR THERMOST	TAT) TEMP SENSOR
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT	,	DANCY SCREENS	CIL ITEM
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ASSESSMEN	NT:							
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SUBSYSTEM MDAC ID: ITEM:	1 :		FRCS 852 FU FI	LL :	LINE	TEMP	SENS	OR				
LEAD ANA	LYST	:	D. HA	RTM	AN							
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SUBSYSTEM MDAC ID:	4:		FRC 854 L F		PRI	ess :	LINE	E B	ACK	JP TI	EMP S	ENSO1	R		
LEAD ANA	LYST	:	D.	HART	'MAN'	1									
ASSESSME	NT:														
•		ICAL: LIGH			RI	EDUN	DANG	CY	SCR	EENS			CIL		
		W/FU			A			В		(С				
NASA IOA		/2R /3]		[P]	[[P]	[[P]		[]	*
COMPARE	[/N]		[N]	[N]	[и]		[]	
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SUBSYSTI MDAC ID: ITEM:		FRCS 855 OX FILI	L	INE T	TEMP	SENSO)R			
LEAD ANA	LYST:	D. HART	'MAI	1						
ASSESSME	ENT:									
	CRITICAL:	ר	RI	EDUNE	ANCY	SCRE	ENS		CII	_
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COMPARE	[/N) [N	3	[N]	[N	1	[)
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SUBSYSTE MDAC ID:	M:			FR 85 OX		ıL	LI	NE	TEI	мP	s	ENSC	OR								
LEAD ANA	LYS	ST:	:	D.	HAF	(T	(A)	ſ													
ASSESSME	NT:	;																			
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NASA IOA]	3	/2R /3]]	P]]	P]	[[P]			[]	*	•
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ASSESSMENT ID: FRCS-857 NASA FMEA #: 03-2F-103370 -1										
FRCS 857			ERMOSTAT) :	TEMP SENSOR						
D. HARTMA	N									
	EDUNDA	NCY SCRE	EENS	CIL ITEM						
NC A		В	С							
[P]	[P] []	[P] []	[] *						
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(If dif:	ferent	from NA	SA)							
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	FRCS-857 03-2F-103 FRCS 857 OX PRESS D. HARTMA ITY R INC A [P] [N	FRCS-857 03-2F-103370 -1 FRCS 857 OX PRESS LINE (D. HARTMAN LITY REDUNDA T NC A [P]	FRCS-857 03-2F-103370 -1 FRCS 857 OX PRESS LINE (NEAR THE D. HARTMAN LITY REDUNDANCY SCRE TO NC A B [P] [P]	FRCS-857 03-2F-103370 -1 FRCS 857 OX PRESS LINE (NEAR THERMOSTAT) TO THE PROSTAT OF THE PROSTAT						

ASSESSMEN ASSESSMEN NASA FMEA	II TI		1/29 FRCS 03-2	-85	B 033	70	-1					SA DA ASEL:	INE]	
SUBSYSTEM MDAC ID: ITEM:	1:		FRCS 858 OX P		s I	LINE	(NE	AR	THER	MC	ST	AT) '	rem:	P SE	NSOF	ŧ
LEAD ANAI	LYST:	:	D. H	ART	MAN	ī										
ASSESSMEN	1T:															
C	CRITI	CAL	_		RI	EDUN	DANC	Y S	SCREE	ENS	3			CII		
		V/FUI			A			В			С					
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COMPARE	[/N]	[N]	[N]]	[N]		ſ]	
RECOMMEN	DATIC	ons:	(1	f d	if	fere	nt f	roı	n NAS	SA))					
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* CIL RE	TENT:	ION :	RATIO	NAL	E:	(If	app	li	cable			EQUA EQUA		[]	
REMARKS:																

ASSESSMENT DASSESSMENT IN NASA FMEA #:		-859	-1	NASA DAT BASELIN NI	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 859 OX P	RESS LINE	TEMP BAC	CKUP SENSOR	
LEAD ANALYST	D. H	ARTMAN			
ASSESSMENT:					
F	CALITY LIGHT	REDUN	DANCY SCR	REENS	CIL ITEM
HDV	/FUNC	A	В	С	
NASA [3 IOA [3	/2R] /3]	[P] []	[P] []	[P] []	[] *
COMPARE [/N]	[N]	[N]	[N]	[]
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ſ	/]	[]	[]	[] ([] ADD/DELETE)
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SUBSYST MDAC II ITEM:				FRO 860 OX)	ss	s I	INE	TE	MP	BACKU	ΙP	SE	ensof	R			
LEAD A	NALY	ST	:	D.	HAR	TM	IAN	ſ										
ASSESSI	1ENT	:																
		FI	[CAL] LIGHT	r			RE A	DUND	AN	CY B	SCREE	ENS	s C			CIL ITEN	1	
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SUBSYSTE MDAC ID:			FRCS 861 OX T		(P-1	TEMP .	SEN	SOR				
LEAD ANA	LYST	:	D. H	ARTM	AN .							
ASSESSME	NT:											
		'ICAL 'LIGH'	ITY	I	REDUN	IDANCY	SC	REENS		CII		
			NC	7	A	В		С		111	71.1	
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RECOMMEN	DATI	ons:	(I	f di	fere	nt fr	om 1	NASA)				
	[/]	[]	[]	[[ADD/D] ELETI	E)
* CIL RE	TENT	ION 1	RATIO	NALE:	(If	appl	ical					
DEMARKS.									DEQUATE DEQUATE]	
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SUBSYSTE MDAC ID: ITEM:	M:		FRC 862 OX		TEI	MP	-1 T	EMF	, S	ENS	SOR							
LEAD ANA	LYST	:	D.	HAR	TM	AN												
ASSESSME	NT:																	
	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDM (FUNC A B C																	
		W/FU				A			В			С						
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COMPARE	ι	/N]		[N]	[N]	[N]		[)		
RECOMMEN	IDATI	ONS:		(If	di	ff	eren	it :	fr	om :	NASA)						
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TANK TEMPERATURE SENSOR ALSO CONTAINED IN THIS FMEA.

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SUBSYSTEM MDAC ID: ITEM:	:	FRCS 863 FU MANI	F P	PRESS-	-1 P:	RESS	SEN	SOR			
LEAD ANALY	YST:	D. HART	MAN	ſ							
ASSESSMENT	r:										
CI	RITICALI FLIGHT HDW/FUN	•	RE A	DUNDA		SCRE				CIL	
	•				В		C	3			
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COMPARE [/N] [N]	[N]	[18	1]		[]
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SUBSYST MDAC II ITEM:					FR 86 FU	4	ΙŦ	FF	RES	S - 1	. P	RE	ess s	ΕŅ	isc	R						
LEAD AN	IALYS	ST:	3		D.	HAR	T	IAN	ľ													
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NASA IOA] 4	3	/2	2R 3]]	P]	[F	, : :		[[P]			[]	*
COMPARI] 3		/N	1]		[N]	I	[N	1	1	[N]			[]	
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SUBSYSTEMDAC ID:	M:		FRCS 865 OX MA	NIF	PRES	s-1 P	RESS	SENS	SOR		
LEAD ANA	LYSI	r:	D. HA	RTMA	N.						
ASSESSME	NT:										
(CICALI FLIGHT		F	REDUN	DANCY	SCR	EENS		CII	
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SUBSYSTEM MDAC ID:	M:		FRCS 866 OX M		F I	PRES	s-1	PI	RESS	SEN	ISOR					
LEAD ANA	LYST	:	D. H	ART	MAN	1										
ASSESSME	NT:															
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		W/FUI			A			В			С					
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REMARKS:																

ASSESSMENT DATE ASSESSMENT ID:	-,,			NASA DA' BASELII]
NASA FMEA #:	03-2F-10	3350	-3			x j
SUBSYSTEM: MDAC ID: ITEM:	FRCS 867 FU MANIF	PRES	S-2 PRES	S SENSOR		
LEAD ANALYST:	D. HARTM	AN				
ASSESSMENT:						
CRITICAI FLIGH		REDUN	DANCY SCI	REENS	CII ITI	
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* CIL RETENTION	RATIONALE:	(If	applicab	ADEQUATE		j
REMARKS: IOA AGREES WITH	NASA FMEA.			INADEQUATE	j]

ASSESSMENT ASSESSMENT NASA FMEA	50 - :	3					SA DA BASELI N	NE]						
SUBSYSTEM MDAC ID: ITEM:	:	8	RCS 68 U MAN	ΊΙ	' F	RESS	-2	PF	RESS S	EN	isc)R				
LEAD ANAL	YST:	E	. HAF	NT.	IAN	Ī										
ASSESSMEN	T:															
c	RITIC FLI		Y		RF	DUND	AN	CY	SCREE	ENS	5			CIL	Μ	
	HDW/		:		A			В			С					
NASA IOA	[3 /	2R] 3]		[P]	[[P]	[P]		[]	*
COMPARE	[/	n]		[N]	[N	1	[N]		ί]	
RECOMMEND	ATION	s:	(If	d:	if	feren	t	fr	om NAS	SA [°])					
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* CIL RET	ENTIC	N R	ATION	AL	E:	(If	ap	pl.	icabl			DEQUA' DEQUA']	
REMARKS:	s WIT	H N	ASA F	ME.	A.											

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-869 NASA FMEA #: 03-2F-1033							350	-3	i						A DATA SELINI NEV		X]		
SUBSYSTE MDAC ID:				86	-	NI:	F :	PRES	ss-	2	ΡI	RESS	SE:	NS	OR					
LEAD ANA	LYS	T:		D.	HA	RT	MA	N												
ASSESSME	NT:																			
			CAL:		7		R	EDUI	NDA	NC'	Y	SCRE	EN	S				IL TE		
			/FUI				A			1	В			С			_	111	r.	
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COMPARE	[/	/N]		[N]		[]	N]	[N]		[]	
RECOMMEN	DAT	IOI	NS:		(If	d:	ifi	fere	ent	fı	ro	m NAS	SA))						
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ASSESSMEN ASSESSMEN NASA FMEA	T ID:	: 1/29/ FRCS- 03-2F	870	350 ·	-3			SA DA'I ASELIN NE		
SUBSYSTEM MDAC ID: ITEM:	[:	FRCS 870 OX MA	NIF E	PRES	S-2 PI	RESS	SENSO	R		
LEAD ANAI	YST:	D. HA	RTMAN	1						
ASSESSMEN	T:									
C	RITICA FLIG		RI	EDUN	DANCY	SCRI	EENS		CII	
	HDW/F		A		В		С			
NASA IOA	[3 /2 [3 /3	R]	[P]	[P []	[P]]] *]
COMPARE	[/N	1	[N]	[N]	[И]	[]
RECOMMENI	DATIONS	: (11	f dif	fere	nt fr	om N	ASA)			
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REMARKS:										

ASSESSME NASA FME		FRCS 03-2	8-87		350	-3					ASA DA' BASELI N	NE	[[x]		
SUBSYSTE MDAC ID:	M:		FRCS 871 FU N		F :	PRES	SS-3	PI	RESS	SE	NS	OR				
LEAD ANA	LYS	r:	D. F	IARTI	MAI	N										
ASSESSME	NT:															
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	1/29/88 FRCS-872 03-2F-103	350 - 3			ra: NE [] EW [X]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 872 FU MANIF	PRESS-3	PRESS	SENSOR	
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
CRITICAI FLIGH	IT	EDUNDAN			CIL ITEM
HDW/FU	INC A	•	В	С	
NASA [3 /2F IOA [3 /3	?] [P] [P]	[P] []	[] *
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REMARKS:					

ASSESSMEN NASA FMEA	T ID:	1/29/88 FRCS-87 03-2F-1	73	350	-3]	NASA DAT BASELIN NE	E [] x]
SUBSYSTEM MDAC ID:		FRCS 873 OX MANI				PRESS	SENS			,
LEAD ANAL	YST:	D. HART	'MAI	N						
ASSESSMEN	T:									
C	RITICAL FLIGH HDW/FU	T	RI A	EDUN	DANCY F	SCR		2	CI:	
NASA IOA	[3 /2R [3 /3] [P]	[])]	[]	P]	[] *]
COMPARE	[/N] [N]	[]	1]	[]	1]	ſ]
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ASSESSMENT ASSESSMENT NASA FMEA #	TD.	FRCS-8	74	350 -	3		N	IASA DA BASEL:	INE]	
SUBSYSTEM: MDAC ID: ITEM:		FRCS 874 OX MAN	IF	PRESS	-3 Pi	RESS S	ENS	SOR				
LEAD ANALYS	T:	D. HAR	AMT	N								
ASSESSMENT:												
CRI	TICAL:		R	EDUND	ANCY	SCREE	ens			CIL	4	
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NASA [IOA [3 /2R 3 /3]	[P]	[P]	[]	P]		[]]	*
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REMARKS: IOA AGREES	WITH	nasa fi	ÆA.									

ASSESSME ASSESSME NASA FME	NT ID:	,,	-875	350	-3			DATA: LINE [NEW [
SUBSYSTE MDAC ID:	M:	FRCS 875 FU MA	ANIF :	PRES	S-4 1	PRESS	SENSOR		
LEAD ANA	LYST:	D. H2	RTMA	N					
ASSESSME	NT:								
	FLI	CALITY CGHT FUNC	R A		DANC		EENS C		IL TEM
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COMPARE	[/	'N]	[N]	[]	1]	[N]	[]
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	[/]	[]	[3	[]	[(ADD)] /DELETE
* CIL RE	TENTIO	N RATION	ALE:	(If	appl	icab	le) ADEQU INADEQU	•]

ASSESSME ASSESSME NASA FME	NT :	ID:	1/29/ FRCS- 03-21	-876	350	-3			SA DAT BASELIN NE			
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 876 FU MA	ANIF	PRES	s-4 P	RESS	SENSO)R			
LEAD ANA	LYS'	T:	D. H	ARTMA	N							
ASSESSME	NT:											
		TICAL FLIGH		R	EDUN	DANCY	SCR	EENS		CII		
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REMARKS	:											

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-877 NASA FMEA #: 03-2F-103350 -3										ASA DA BASELI N		x]			
SUBSYSTI MDAC ID: ITEM:			FRCS 877 OX M		F I	PRES	SS-4	P	RESS	SE	NS(OR			
LEAD ANA	LYSI	r:	р. н	ARTI	MAI	N									
ASSESSME	ENT:														
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* CIL RE REMARKS: IOA AGRE						(If	apı	pli	.cab			EQUATE	-]	

ASSESSME ASSESSME NASA FME	NT :	ID:		FR	CS-8	78		50 -	-3							DAT ELIN NE	ΙE	[}			
SUBSYSTEM MDAC ID:	M:			FR 87 OX	8	IIE	FF	RESS	5-4	P	RI	ESS S	EN	isc	R						
LEAD ANA	LYS	T:		D.	HAF	(T	(A)	ī													
ASSESSME	NT:																				
			ALI GHI				RI	EDUNI	AN	CY		SCREE	:NS	3				CII			
		_	FUN				A			В	3			С							
NASA IOA			′2R ′3			[P]	[F	•]]	[P]			[]	*
COMPARE	[/	/N]		[N]	1	N	ī]	[N]			[]	
RECOMMEN	DAT	'IOI	1S:		(If	đ	if	fere	nt	fr	: O1	m NAS	SA))							
	[,	/]		[]	Í	[]	[]		(A	[DD/	DE] LE	TE)
* CIL RE	TEN	TIC	I NC	RAI	ION	AL	E:	(If	aj	[qọ	Li	cable				UAT UAT		[]	
REMARKS:																					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-879 05-6KF-2153 -1	NASA DATA: BASELINE [] NEW [X]							
SOPSISIEM:	879	& 3/4/5 SWITCH TALKBACK							
LEAD ANALYST:	D. HARTMAN								
ASSESSMENT:									
CRITICAL: FLIGHT	r	ENS CIL ITEM							
HDW/FU	NC A B	С							
NASA [3 /3 IOA [3 /1R] [] []] [P] [P]	[]							
COMPARE [/N] [N] [N]	[N] []							
RECOMMENDATIONS:	(If different from NAS	SA)							
[3 /2R] [P] [P]	[P] [] (ADD/DELETE)							
* CIL RETENTION F	RATIONALE: (If applicable	e)							
		ADEQUATE [] INADEQUATE []							
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.									

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-879A	NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 879 OX & FU TK ISOL VLV	1/2 & 3/4/5 SWITCH TALKBACK					
LEAD ANALYST:	D. HARTMAN						
ASSESSMENT:							
CRITICAL		SCREENS CIL ITEM					
FLIGH HDW/FU	_	С					
NASA [3 /3 IOA [3 /1R] [] [] [] [P]] [] * [] * [] *					
COMPARE [/N] [N] [N]	[и] [и]					
RECOMMENDATIONS:	(If different from	m NASA)					
[3 /2R	[P] [P] [P] [] (ADD/DELETE)					
* CIL RETENTION	RATIONALE: (If applied	cable) ADEQUATE [] INADEQUATE []					
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION							

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-880 05-6KF-2155 -1	1/29/88 NASA DATA: FRCS-880 BASELINE 05-6KF-2155 -1 NEW					
	FRCS 880	K & FU ISOL VLV SWI					
LEAD ANALYST:	D. HARTMAN						
ASSESSMENT:							
CRITICAL FLIGH	ITY REDUND	ANCY SCREENS	CIL				
HDW/FU	NC A	В С	ITEM				
NASA [2 /1R IOA [3 /1R] [P]] [P]	[F] [P] [P] [P]	[X] * []				
COMPARE [N /] []	[N] []	[и]				
RECOMMENDATIONS:	(If differen	t from NASA)					
[3 /2R] [P]	[P] [P]	[D] (ADD/DELETE)				
* CIL RETENTION I	RATIONALE: (If	ADEOUA	re []				
REMARKS:		INADEQUA					
NASA FMEA CONSIDERS MULTIPLE FAILURES. HOWEVER, LOSS OF ACCURATE INDICATION OF VALVE STATUS WITH SWITCH TALKBACK COUPLED WITH THE LOSS OF REDUNDANCY (MDM DISCRETES) MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.							
AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS							

ISSUE REMAINS OPEN.

DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-880A 05-6KF-21			NASA DATA BASELINE NEW	: [
SUBSYSTEM: MDAC ID: ITEM:	FRCS 880 MANIFOLD	1, OX 8	FU ISOL	. VLV SWITCH	TALKBACK
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL		REDUNDAN	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /3 IOA [3 /1R] [] P]	[] [P]	[] [P]	[] *
COMPARE [/N	1 (и]	[и]	[N]	[]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
[3 /2R] [P]	[P]	[P] (A	[] DD/DELETE)
* CIL RETENTION REMARKS:	RATIONALE	: (If a	pplicable	e) ADEQUATE INADEQUATE	[]

THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-881 05-6KF-2155 -1	NASA DATA BASELINE NEW	
MDAC ID:	FRCS 881 MANIFOLD 2, OX	FU ISOL VLV SWITCH	TALKBACK
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH		NCY SCREENS	CIL ITEM
	NC A	в с	ITEM
NASA [2 /1R IOA [3 /1R] [P]	[F] [P] [P] [P]	[X] * []
COMPARE [N /] []	ן ון נא	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[3 /2R] [P]	[P] [P] (A)	[D] DD/DELETE)
* CIL RETENTION	RATIONALE: (If ap	-	
		ADEQUATE INADEQUATE	
INDICATION OF VA	LVE STATUS WITH S	URES. HOWEVER, LOSS WITCH TALKBACK COUPI) MAY LEAD TO FALSEI	OF ACCURATE

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:								
	FRCS 881 MANIFOLD 2							
LEAD ANALYST:	D. HARTMAN	. HARTMAN						
ASSESSMENT:	ASSESSMENT:							
CRITICAL FLIGH	ns	CIL ITEM						
HDW/FU		В	С	112.				
NASA [3 /3 IOA [3 /1R] [] [P] []]]	[] [P]	[] *				
COMPARE [/N] [N] [N]	[N]	[]				
RECOMMENDATIONS:	(If dif	ferent from NAS	A)					
[3 /2R] [P] [P]	[P] (AI	[] DD/DELETE)				
* CIL RETENTION	RATIONALE:	(If applicable	e) ADEQUATE INADEQUATE	[]				
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION								

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-882 05-6KF-2155 -1 FRCS	NASA DATA BASELINE NEW					
	882	FU ISOL VLV SWITCH	TALKBACK				
LEAD ANALYST:	D. HARTMAN						
ASSESSMENT:							
CRITICAL FLIGH	ITY REDUNDANG	CY SCREENS	CIL ITEM				
	NC A	В С					
NASA [2 /1R IOA [3 /1R] [P] [] [P]	F] [P] P] [P]	[X] *				
COMPARE [N /] [] [N] []	[N]				
RECOMMENDATIONS:	(If different	from NASA)					
[3 /2R] [P] [[D] DD/DELETE)				
* CIL RETENTION	RATIONALE: (If app	ADEQUATE	[]				
INADEQUATE [] REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. HOWEVER, LOSS OF ACCURATE INDICATION OF VALVE STATUS WITH SWITCH TALKBACK COUPLED WITH THE LOSS OF REDUNDANCY (MDM DISCRETES) MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.							

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-882	A 2155 - 2	NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	FRCS		, VLV SWITCH	TALKBACK				
LEAD ANALYST:	D. HARTN	MAN						
ASSESSMENT:								
CRITICAL	CIL ITEM							
FLIGH HDW/FU		A	В	С				
NASA [3 /3 IOA [3 /1F] [p]	[] [P]	[] [P]	* [] []			
COMPARE [/N] [и ј	[N]	[N]	[]			
RECOMMENDATIONS	(If d	ifferent	from NA	SA)				
[3 /21	R] [P]	[P]	[P]	[] ADD/DELETE)			
* CIL RETENTION	RATIONAL	Æ: (If a	applicabl	e) ADEQUATE INADEQUATE				
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.								

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ENT	ΙI):	FRCS.	-22	3 3	55	-1			1		DATA ELINE NEW]	
SUBSYSTEMDAC ID:				FRCS 883 MANII	FOI	ď.	4,	OX &	F	U I	SOL VI	.v sv	VITCH	TAL	KBA	CK
LEAD ANA	LYS	T:	:	D. HA	RI	MΑ	N									
ASSESSME	NT:															
		FI	JGH.	ITY F NC		R:	EDU	NDAN	CY B	SC	REENS			CIL		
NASA					г	ъ	1	r	_	,	-					
IOA	<u>.</u>	3	/1R	j	ĺ	P]	[P]	[P]		[X] *	t
COMPARE	[]	N	/]	[]	נ	N]	[]		[N]	
RECOMMEN	DAT:	10	NS:	(If	d :	ifí	fere	ent :	fro	om 1	NASA)					
	[:	3 ,	/2R]	[P]	[P]	[P]	(AD	[D		'E)
* CIL RET											A INA	DEQU		[]	
NASA FME	A CC)NS	SIDE	RS MUI	LTI	PL	E F	AILU	RE	s.	HOWE	ÆR,	Loss	OF	ACC	URAT

NASA FMEA CONSIDERS MULTIPLE FAILURES. HOWEVER, LOSS OF ACCURATE INDICATION OF VALVE STATUS WITH SWITCH TALKBACK COUPLED WITH THE LOSS OF REDUNDANCY (MDM DISCRETES) MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT ASSESSMENT NASA FMEA	ID:	FRCS-8	8 83 A -21	55 -2						SA DATA ASELINI NEV]
SUBSYSTEM: MDAC ID: ITEM:		FRCS 883 MANIFO						L V	ľV	SWITCH	H TAL	KBACK
LEAD ANALYS	ST:	D. HAR	TMA	N								
ASSESSMENT	:											
CR	ITICAL:		R	EDUND	AN	CY	SCRE	ENS	}		CIL	
1	HDW/FU		A			В			С			
NASA [IOA [3 /3 3 /1R]	[[P]	[P]	[[P]	[] *
COMPARE [/N]	[N]	[N]	[N]	[]
RECOMMENDA'	TIONS:	(If	dif	feren	it :	fro	om NA	SA)				
ſ	3 /2R]	[P]	[P]	[P] (2	[ADD/D] ELETE)
* CIL RETE	NTION :	RATIONA	LE:	(If	ap	pli	icabl			EQUATE EQUATE]
REMARKS:	DE MAV	CAUSE	TOS	SOF	AC	CUI	RATE	INI	OIC	ATION (OF TH	E VALVE

THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEN ASSESSMEN NASA FME	T	I		FRCS-	38	4								ASA DA BASELI N		[]	
SUBSYSTEM MDAC ID: ITEM:	M:			FRCS 884 MANIFO) DL	D!	5,	ох	&	FU	J IS	SOL	ΛΓ	V SWIT	гсн	TAI	LKB/	ACK
LEAD ANAI	LYS	ST	:															
ASSESSMEN	NT:	:																
C		F	ICAL LIGH	r			EDI	JNDA	NC		SCI	REEN				CII		
	1	HDI	W/FUI	NC		A				В			С					
NASA IOA	[3	/ /2R]]	P]		[[P]	[P]		[]	*
COMPARE	[N	/N]	[N]		[N	3	[N]		[]	
RECOMMENI	DA:	ric	ons:	(If	đ:	if	fei	rent	f	rc	om 1	NASA	.)					
	[/]	[]		[]	[]	(AI	[DD/I	,	ETE)
* CIL RET	rei	TI	ION I	RATIONA	LI	E:	()	[f a	ממ	1 i	cal	ole)						
REMARKS:							`		FE			•		DEQUAT DEQUAT		[]	
FORWARD N CHANGE IN														ZED BY				

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/8 FRCS-8 05-6KF	885	-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 885 CONTRO	OLLER,	REMOT	E POWER		
LEAD ANALYST:	D. HAI	RTMAN				
ASSESSMENT:						
CRITICA		RED	UNDANC	CY SCREEN	is	CIL ITEM
FLIC HDW/1		A		В	С	
NASA [3 /: IOA [2 /:	.R]	[P]]	P]	[P] []	[x] *
COMPARE [N /	1]	[и]	[N]	[и]	[и]
RECOMMENDATION	s: (If	diffe	erent	from NAS	A)	
[2 /	LR]	[P]] [P]	[P] (A	[A] ADD/DELETE)
* CIL RETENTIO	N RATION	IALE:	(If ap) ADEQUATE INADEQUATE	[]
REMARKS: LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD						

3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-886	179 -2	NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 886 CONTROLLE	ER, REMOTE	POWER	
LEAD ANALYST:	D. HARTMA	N		
ASSESSMENT:				
CRITICALI FLIGHT		REDUNDANCY	SCREENS	CIL
HDW/FUN	ic a	В	С	ITEM
NASA [3 /1R IOA [2 /2] [P	'] [F] [P]	[X] * [X]
COMPARE [N /N] [N] [N	ן א]	[]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)	
[3 /3] [] [[D] DD/DELETE)
* CIL RETENTION R	ATIONALE:	(If appli	.cable) ADEQUATE INADEQUATE	
REMARKS: NASA FMEA CONSIDE EFFECT.	RS MULTIPI	LE FAILURE		

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-88	7		NASA DATA: BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	FRCS 887 CONTROL	LER, RE	MOTE POWER	ŧ				
LEAD ANALYST:	D. HART	MAN						
ASSESSMENT:								
CRITICAL FLIGH		REDUND	ANCY SCREE	ens	CIL ITEM			
HDW/FU		A	В	С				
NASA [3 /1R IOA [2 /2		P]	[P] []	[P] []	[] * [X]			
COMPARE [N /N] [и ј	[и]	[N]	[и]			
RECOMMENDATIONS:	(If d	lifferen	t from NAS	SA)				
[2 /1R	[]	P]	[P]	[P] (A	[A] DD/DELETE)			
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []							
REMARKS: LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD								

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ASSESSMENT ASSESSMENT NASA FMEA	r ID:	1/29/88 FRCS-888 05-6KF-2		2			ASA DATA BASELIN NE	E []
SUBSYSTEM: MDAC ID: ITEM:	:	FRCS 888 CONTROLL	ER, R	EMOTE	POWE	R			
LEAD ANALY	ST:	D. HARTM	AN						
ASSESSMENT	r:								
CF	RITICALI FLIGHT		REDUN	DANCY	SCRE	ENS		CII	
	HDW/FUN		A	В		С		111	iP1
NASA [IOA [3 /3 3 /3] []	[]	[]]] *]
COMPARE [. /] []	[]	[]	[]
RECOMMENDA	ATIONS:	(If di	ffere	nt fro	om NAS	SA)			
(. /	J []	[]	[.] (2	[ADD/D] ELETE
* CIL RETE	ENTION F	RATIONALE	: (If	appl	icable	A	DEQUATE DEQUATE	-]
REMARKS:									J

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-889	179 -1		NASA DATA: BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	FRCS 889 CONTROLL	ER, REMO	TE POWER					
LEAD ANALYST:	D. HARTM	IAN						
ASSESSMENT:								
CRITICAL		REDUNDAN	CY SCREEN	S	CIL ITEM			
FLIGH HDW/FU		A	В	С				
NASA [3 /1R IOA [2 /2] [P] [P] [P]	[x] *			
COMPARE [N /N] [и] [и][иј	[N]			
RECOMMENDATIONS:	(If di	ifferent	from NASA	r)				
[2 /1F	?] [P] [P] [[P] (A	[A] DD/DELETE)			
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []							
REMARKS: LOSE JETS ON MANIFOLD 2. REDUNDANCY PROVIDED BY JETS ON MANIFOLD								

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

4. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-890	179 - 2		NASA DA BASELI N					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 890	RCS							
LEAD ANALYST: D. HARTMAN									
ASSESSMENT:									
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM									
HDW/FU		.	В	С	IIEM				
NASA [3 /1R IOA [2 /2] [F) [F]	[P] []	[X] * [X]				
COMPARE [N /N] [N	,] [n j	[и]	[]				
RECOMMENDATIONS:	(If dif	ferent f	rom NA	SA)					
[3 /3] [] []	[]	[D] (ADD/DELETE)				
* CIL RETENTION F	PATIONALE:	(If app	olicabl	e) ADEQUATI INADEQUATI					
NASA FMEA CONSIDE EFFECT.	RS MULTIP	LE FAILU	RES.	THIS FAILU	RE ALONE HAS NO				

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-891 05-6KF-2	180 -1	NASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 891 CONTROLI	ER, REM	OTE POWER		
LEAD ANALYST:	D. HARTM	IAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1F IOA [2 /2	R] [P]	[P] []	[P] []	[x] *
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS	: (If d	ifferent	from NAS	SA)	
[2 /1]		P]	[P]	[P]	[A] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: LOSE JETS ON MA 4. JETS REQUIR	NIFOLD 2. ED TO EXE	REDUN PEL PROP	DANCY PRO' ELLANTS T	VIDED BY JE O MEET CG L	TS ON MANIFOLD IMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSM ASSESSM NASA FM	ENT ENT EA	' DA' ' ID: #:	FE: 1 F	/29/88 RCS-892 5-6KF-2	: :180	-2				DATA ELINI NEV			
SUBSYST MDAC ID ITEM:	EM:		F: 8:	RCS 92 ONTROLL				WER				,	
LEAD AN	ALY	ST:	D.	. HARTM	AN								
ASSESSM	ENT	:											
	CR	ITIC FLI	ALITY GHT	<i>t</i>	REDU	NDANC	Y SCI	REENS			CI		
]	HDW/	FUNC	•	C		IT:	EM					
NASA IOA]	3 /	3] 3]]]	[]]]]] *]	
COMPARE	[/]	[3	C]	ſ	3		[]	
RECOMMEN	DAT	rion:	s:	(If dia	ffer	ent fr	om N	ASA)					
	.[/]	[]]]	C]	(Al	[DD/[] ELET:	E)
* CIL RE	TEN	TIO	N RAT	IONALE:	(II	f appl	icab	le)					
REMARKS:								A	DEQU DEQU		[]	

ASSESSMEN ASSESSMEN NASA FME	NT	ID		FR	CS-8	93		9.	-1						SA BASE	LIN	ΙE	[x]		
SUBSYSTEMDAC ID:	M:			FR 89 CO	3	LI	LEF	₹, 1	REM	OT:	E	POWE	ER								
LEAD ANA	LYS	T:		D.	HAI	(T	(A)	1													
ASSESSME	NT:																				
			CALI				RI	EDU	NDA	NC'	Y	SCRE	EENS	3				CII			
		_	/FUN				A				В			С							
NASA IOA	[3	/1R /2R]		[P P]		[P P]	[[P P]			[]	*	
COMPARE	[/N]		[]		[]	[]			[]		
RECOMMEN	TA D	'IO	NS:		(If	d	if:	fer	ent	: f	r	om NA	ASA)							
	[/]		[]		[]	(]			[DD/I		ETE)
* CIL RE	TEN	ITI	ON I	RAI	'ION	ΑL	E:	(I	fa	pp	1:	icab:	le) I	A NA	DEQI DEQI	JAT: JAT:	E E	[]		
REMARKS:																					

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-894 05-6KF-217	79 -2	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 894 CONTROLLER	R, REMOTE	POWER	
LEAD ANALYST:	D. HARTMAN	T		
ASSESSMENT:				
CRITICALI FLIGHT		DUNDANCY	SCREENS	CIL
HDW/FUN	-	В	С	ITEM
NASA [3 /1R IOA [2 /2] [F] [P]] []	[X] * [X]
COMPARE [N /N] [и] [N] [N]	[]
RECOMMENDATIONS:	(If diff	erent fro	om NASA)	
[3 /3) [] [[D] DD/DELETE)
* CIL RETENTION F	RATIONALE:	(If appli	icable) ADEQUATE INADEQUATE	[]
NASA FMEA CONSIDE	RS MULTIPL	E FAILURE	S. THIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMI ASSESSMI NASA FMI	TNE	ID		FR	29/8 CS-8 -6KF	95	5 218	O -	-1							DA' ELI: N	NE]	
SUBSYSTIMDAC ID:				FR 89 CO	5	LI	ÆF	R, 1	REM	TOI	'E	POWE	ER								
LEAD AN	ALYS	ST:		D.	HAR	TT	(A)	ī													
ASSESSM	ENT	:																			
		FI	CAL	ľ			RI A	EDU	NDA	MC	Y B	SCRE	EENS	c				CI IT		1	
			i/FUI											_	_			_			
NASA IOA	[[3 3	/1R /2R]		[P P]		[P P]	[P P]			[]	*
COMPARE	[/N]		[]		[3	[]			[]	
RECOMME	NDA'	ric	ons:		(If	d	if	fer	ent	: f	fro	om NA	ASA))							
	[/]		[]		[]	[]		(A	[DD/	'DI] ELI	ETE)
* CIL R	ETE:	NT:	ION :	RAI	ION	AL	E:	(I	f a	app) 1	icab:				LAU LAU		[]	
DEMARKS	•												1.1	ALT.	o E Q	OAI		L		J	

IOA AGREES WITH NASA FMEA.

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	FRCS-	896	NASA DATA: BASELINE [] 180 -2 NEW [X]										
SUBSYSTEM: MDAC ID: ITEM:		FRCS 896 CONTR	OLLE	R, RE	MOTE	POWE	R							
LEAD ANALYS	T:	D. HA	RTMA	N										
ASSESSMENT:														
	TICAL: FLIGH		R	EDUND	ANCY	SCRE	ENS		CII					
	DW/FUI		A		В		C	2	TTE	M				
NASA [3 /3 3 /3]	[]	[]	[]	[] *				
COMPARE [/]	Ε]	[1	[]	[]				
RECOMMENDAT	ions:	(If	dif	feren	t fr	om NA	SA)							
[/]	ĺ]	[]	[[ADD/D] ELETE)				
* CIL RETENT REMARKS: NO DIFFERENCE		RATION	ALE:	(If	appl:	icabl	A	DEQUATE	[]				

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-897 NASA FMEA #: 05-6KF-2181 -1													DAT ELIN NE	E	[]	
SUBSYSTE MDAC ID:			FRC 897 CON		LEF	٤, :	REMO	TE	PO	WER								
LEAD ANA	LYS'	T:	D.	HART	MAN	I												
ASSESSME	NT:																	
		TICAL			RI	DU	NDAI	ICY	sc	REENS	5				CI	L		
		FLIGH DW/FU			A			В			С				11	EM	•	
NASA IOA	[3 /1R 3 /2R]	[P P]		P P]	[P P]			[]	*
COMPARE	[/N]	[]	1	•]	[]			[]	
RECOMMEN	IDAT	ions:	(If d	ifi	fer	ent	fr	om	nasa))							
	[/]	[]	ł]	[]	(ΆΙ		'DE		TE)
* CIL RE		TION	RATI	ONAL	E:	(I	f ap	pl	ica		IA IAN	DEQ DEQ	UATE UATE	2	[]	
IOA AGRE		WITH	NASA	FME	Α.													

ASSESSME ASSESSME NASA FME	NT	I		FRC	9/88 S-898 6KF-21	81 -	-2		1	NASA BASE	DATA LINE NEW	[x]	
SUBSYSTE MDAC ID:	M:			FRC 898 CON		R, I	REMOTE	POV	V ER						
LEAD ANA	LY:	ST	:	D.	HARTMAI	N									
ASSESSME	NT	:													
	CR:		ICAI LIGI	LITY	R	EDU	NDANCY	SCF	REENS				IL CEM	A	
	1		W/FC		A		В		(2				•	
NASA IOA	[[3 2	/3 /2]	[]	[]]]]		[x]	*
COMPARE	[N	/N]	(]	ſ]	[)		[N]	
RECOMMEN	DA'	rI	ONS:	: (If dif	fere	ent fr	om N	NASA)						
	[/]	[]	[]	[]	(A)		/DE		ETE
* CIL RE	TEI	YT:	ION	RATI	ONALE:	(Ii	appl	icak	1	ADEQU ADEQU		[]	
REMARKS:												٠		_	

IOA AGREES WITH NASA FMEA.

ASSESSMEN ASSESSMEN NASA FMEA	\mathbf{T}	ID:		FRO	CS-8	99	18	2 -1	l.					SA DA' ASELI N	NE	[[x		
SUBSYSTEM MDAC ID:	M:			FRO 899 COI	9	LI	ÆR	, RI	EMO'	ΓE	POW	VER						
LEAD ANA	LYS	T:		D.	HAR	TM	IAN	Ī										
ASSESSME	NT:																	
	CRI		CAL				RE	DUN	DAN	CY	SCI	REENS	3			CIL	M	
	H		IGH: /FUI				A			В			С					
NASA IOA	[3	/1R /2R]		[P P]]	P P]	[[P P]		[]	*
COMPARE	[/N	3		[]	()	[]		[]	
RECOMMEN	DA:	ric	ns:		(If	d :	if	fere	nt	fr	om :	nasa))					
	[/]		[]	[)	[]	(A	[DD/D	ELJ	ETE)
* CIL RE	ETE	n T]	ON	RAI	NOI	AL	E:	(If	ar	pl	ica		A	DEQUA'		[]	
REMARKS:	: EES	W	CTH	NAS	SA F	ME	Α.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-90 05-6KF-	0 2182 - 2	2	NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 900		EMOTE POW	ER	
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICALI FLIGHT		REDUND	ANCY SCR	EENS	CIL ITEM
HDW/FUN	iC	A	В	С	IIEM
NASA [3 /1R IOA [3 /3] [P]	[P] []	[P] []	[] *
COMPARE [/N] [n j	[N]	[N]	[]
RECOMMENDATIONS:	(If di	fferen	t from N	ASA)	
[3 /3] []	[]	[] (A)	[] DD/DELETE)
* CIL RETENTION R	ATIONALE	: (If a	applicab]		·
REMARKS:				ADEQUATE INADEQUATE	[]
NASA FMEA CONSIDE	RS MULTI	PLE FA	LURES.	THIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED (MULTIPLE FAILURES) WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		9 -2	SA DATA: ASELINE NEW	[x]		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 901 CONTROLLER	R, REMOTE	POWER			
LEAD ANALYST:	D. HARTMAN	ī				
ASSESSMENT:						
CRITICAL		CIL ITEM				
FLIGH HDW/FU		В				
NASA [3 /1R IOA [2 /2] [F] [P]	[X]	*
COMPARE [N /N] [N] [N] [N]	[]	
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
[3 /3] [] [] [] (AI	[D]	ETE)
* CIL RETENTION	RATIONALE:	(If appl	Al	DEQUATE DEQUATE	[]	
REMARKS: NASA FMEA CONSIDERFECT.	ERS MULTIP	LE FAILUR	ES. THIS	FAILURE	ALONE	HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-902 05-6KF-2180 -1	NASA DATA BASELINE NEW	
SUBSYSTEM:	FRCS 902 CONTROLLER, REMOTE		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT		SCREENS	CIL ITEM
HDW/FUN	NC A B	С	
NASA [3 /1R IOA [2 /2] [P] [P] [P]] []	[] * [x]
COMPARE [N /N] [N] [N] [N]	[N]
RECOMMENDATIONS:	(If different fr	om NASA)	
[2 /1R] [P] [P		[A] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If appl.	icable) ADEQUATE INADEQUATE	[]
REMARKS: LOSE JETS ON MANI 2. JETS REQUIRED	FOLD 4. REDUNDANC TO EXPEL PROPELLA	Y PROVIDED BY JETS	ON MANTFOLD

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS		30 -	·2		_		DATA: LINE NEW	[
SUBSYSTE MDAC ID: ITEM:			FRCS 903 CONT	ROLLEI	₹, F	REMOTE	POW	ER					
LEAD ANA	LYSI	r:	D. H	ARTMAI	1								
ASSESSME	NT:												
		rical Fligh	ITY T	RI	MUDE	IDANCY	SCR	EENS			CII		
		DW/FU		A		В		C	!				
NASA IOA	[:	3 /3]]	[[]	[]	[]		[]	*
COMPARE	[/]	C]	[]	[]		[)	
RECOMMEN	DAT:	ions:	(I	f dif	fere	ent fr	om N	(ASA)					
	[/	1	[]	[]	[]	(A	[DD/1] DELI	ETE)
* CIL RE	TEN'	TION	RATIC	NALE:	(I:	f appl	icab	P	DEQI	JATE JATE	[]	
REMARKS:		CES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	EDGG OOA	179 -1	NASA DATA BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 904 CONTROLLI	ER, REMOTE	POWER									
LEAD ANALYST:	D. HARTM	AN										
ASSESSMENT:	ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
HDW/FU	_	A B	С									
NASA [3 /1R IOA [2 /2] []	P] [P] [P]] []	[] * [x]								
COMPARE [N /N] [1	и] [и] [N]	[N]								
RECOMMENDATIONS:	(If di	fferent fro	om NASA)									
[2 /1R] []	P] [P		[A] DD/DELETE)								
* CIL RETENTION	RATIONALE:	: (If appl	icable) ADEQUATE INADEQUATE	[]								
			Y PROVIDED BY JET NTS TO MEET CG LI									

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	NT	ID		FRC	9/88 S-905 6KF-2		-1			1	NASA DAT BASELIN NE	E	[[X]	
SUBSYSTE MDAC ID: ITEM:				FRC 905 CON		LER,	RE	MOTE	POWEI	2					
LEAD ANA	LYS	ST:	:	D.	HART	MAN									
ASSESSME	:TN	:													
	CR			YTI		RED	UND	ANCY	SCRE	ENS	}		CII		
	I		LIGH N/FU			A		В			С				
NASA IOA	[2 2	/2 /2]]]		[]	[]		[]	[] []	*
COMPARE	C		/	3	[]	1	[1	[1		[]	
RECOMME	NDA	TI:	ons:	:	(If d	liffe	erer	nt fr	om NA	SA)				
	[/	3	(]	[1	[]	(AI	[DD/1	DEI] LETE)
* CIL R		NT	ON	RAT	IONAI	Œ:	(If	appl	icabl		ADEQUAT NADEQUAT			:]
REMARKS	:														

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	: [] [X]					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 906 CONTROLLE					
LEAD ANALYST:	D. HARTMAN	N				
ASSESSMENT:						
CRITICALI FLIGHT		EDUNDANCY	SCREENS		CIL ITEM	
HDW/FUN	IC A	В	С		TIEM	
NASA [3 /2R IOA [3 /3] [P] [F] [P]	[X]	*
COMPARE [/N] [N] [N] [N]	[N]	
RECOMMENDATIONS:	(If diff	erent fro	om NASA)			
[3 /3] [] [] [[D] D/DELE	TE)
* CIL RETENTION R	ATIONALE:	(If appli	cable)	•	·	•
REMARKS:				EQUATE EQUATE	[]	
NASA FMEA CONSIDE EFFECT.	RS MULTIPL	E FAILURE	s. THIS	FAILURE	ALONE	HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT I	D:	1/29/ FRCS- 05-6F	907	33 -	1				LINE NEW	[[]	
SUBSYSTEMDAC ID:	M:		FRCS 907 CONTE	OLLEI	R, R	EMOTE	POW	ER					
LEAD ANA	LYST	:	D. HA	RTMAI	N.								
ASSESSME	NT:												
		ICAL LIGH	ITY T	RI	EDUN	DANCY	SCR	EENS			CII		
	_	W/FU		A		В		C	2				
NASA IOA	[2 [2	/2 /2]	[]	[]	[]		[]	<]<	*
COMPARE	[/	3	[]	[]	[3		[]	
RECOMMEN	DATI	ons:	(I	f dif	fere	nt fr	om N	ASA)					
	[/]	[3	[]	[]	(A	[DD/]	DEL	ETE)
* CIL RE	CTENT	ON	RATIO	NALE:	(If	appl	icab	7		JATE JATE	[]	
REMARKS:		CES.											

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-908 NASA FMEA #: 05-6KF-2183 -2 NEW [X]											
SUBSYSTEM: MDAC ID: ITEM:	FRCS 908	R, REMOTE									
LEAD ANALYST:	D. HARTMA	N									
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM											
HDW/FU	NC A	В	С								
NASA [3 /2R IOA [3 /3] [F] [P]] []	[X] * []							
COMPARE [/N] [N] [N] [N]	[N]							
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)								
[3 /3	J [) [[D] (ADD/DELETE)							
* CIL RETENTION I	RATIONALE:	(If appli	icable) ADEQUAT INADEQUAT								
NASA FMEA CONSIDI	ERS MULTIP	LE FAILURE	es. This failu	RE ALONE HAS NO							

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-909 NASA FMEA #: 05-6KF-2260 -1										SA DATA ASELINE NEW		x]					
SUBSYSTE MDAC ID: ITEM:	M:			FROM PROPERTY OF THE PROPERTY														
LEAD ANA	LYS	ST:		D.	HAR	TM	IAN	•										
ASSESSME	NT:	:																
	CR		CAL				RE	DUND	ANC	CY	SCREI	ENS	3			L EM	ſ	
	1		LIGH'				A			В			С					
NASA IOA	[3	/1R /2]]	P]	[[F]	[[P]	[X X]	*
COMPARE	[N	/N]		[N]	[N]	[N	1	[}	
RECOMMEN	IDA'	TI	ons:		(If	đ	ifí	feren	it :	fro	om NA	SA)					
	[2	/1R	.]		[P]	[P]	[P] (2		A /Di		ETE)
* CIL R	ETE	NT	ION	RAI	NOI?	λL	Е:	(If	ap	pl:	icabl			DEQUATE DEQUATE]	
DEMARKS	•											_					•	

LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

SUBSYSTEM: FRCS MDAC ID: 910 ITEM: DIODE LEAD ANALYST: D. HARTMAN	
LEAD ANALYST: D. HARTMAN	
ASSESSMENT:	
CRITICALITY REDUNDANCY SCREENS CIL	
HDW/FUNC A B C	M
NASA [3 /3] [] [] [] [] [] [] []] *]
COMPARE [/] [] [] []
RECOMMENDATIONS: (If different from NASA)	
[] ELETE
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE []

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	NT ID):	FRO	:S-9	11		59 A-	1						DATA LINE NEW	[
SUBSYSTEM MDAC ID: ITEM:	1:		FRO 911 DIC	L														
LEAD ANA	LYST:	:	D.	HAF	(TS	(A)	1											
ASSESSME	NT:																	
(CRITI					RI	EDUN	DAI	NCY	sc	REEN	IS			CI		g.	
		IGH' V/FUI				A			В			C	:			. 111	•	
NASA IOA	[3 [3	/1R /2R]]	P P]		[F]	[F)]		[X X]	*
COMPARE	[/N]		[]		(]	[•]		[]	
RECOMMEN	DATIC	ons:		(If	d:	if	fere	ent	fr	om	NAS <i>I</i>	A)						
	[/]		[]		[]	(•]	(A			ELI	ETE)
* CIL RE	TENT	ION :	RAT:	IONZ	AL	E:	(If	a j	ppl	ica		P		UATE UATE]	
REMARKS:	ES W	ITH :	NAS	A FI	ME	Α.												

ASSESSME ASSESSME NASA FME	NT II		1/29/ FRCS- 05-6K	912	59 A-	2		ľ	NASA DA BASELI N] K]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 912 DIODE									
LEAD ANA	LYST	:	D. HA	RTMA	N							
ASSESSME	NT:											
	CRITI	ICAL: LIGH		R	EDUN	DANCY	SCRE	ENS		CII		
		/FU		A		В		c	:	ITE	5M	
NASA IOA	[3 [3	/3 /3]]]	[]	[]	[] *	
COMPARE	[/]	[]	[]	[]	[]	
RECOMMEN	DATIC	ons:	(If	dif	fere	nt fr	om NA	SA)				
	[/]	[]	[]	[]	[(ADD/D] ELETE	
* CIL RE	TENTI	ON 1	RATION.	ALE:	(If	appl	icabl	A	DEQUATI	•]	
REMARKS:								TIVE	PPAONI	- L	1	

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-913	NASA DATA BASELINE NEW									
	FRCS 913 DIODE										
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICAL: FLIGH		CY SCREENS	CIL ITEM								
HDW/FU	NC A	ВС									
NASA [3 /1R IOA [3 /2R] [P] [] [P]	F] [P] F] [P]	[X] *								
COMPARE [/N] [] [] []	[]								
RECOMMENDATIONS:	(If different	from NASA)									
[2 /1R] [P] [P] [P] (A	[A] DD/DELETE)								
* CIL RETENTION	RATIONALE: (If app	plicable) ADEQUATE INADEQUATE									
REMARKS: LOSE JETS ON MAN JETS REQUIRED TO	REMARKS: LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY MANIFOLD 3 JETS FETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.										

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSME	ESSMENT DATE: 1/29/88 NASA DATA: ESSMENT ID: FRCS-914 BASELINE [] FA FMEA #: 05-6KF-2259 -2 NEW [X]										
SUBSYSTE MDAC ID:			FRCS 914 DIOD								
LEAD ANA	LYS'	T:	D. H	ARTMA	N						
ASSESSME	NT:										
		TICAL		R	EDUN	IDANC	SCR	EENS		CI	
		FLIGH DW/FU	_	A		F	3	(C	IT	EM
NASA IOA	[:	3 /3 3 /3]	[]	[]	[]	[[] *]
COMPARE	[/]	[3	[]	[]	[]
RECOMMEN	DAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)			
	(/]	[]	[]	[[ADD/I] DELETE)
* CIL RE	TEN'	rion :	RATIO	NALE:	(If	appl	icab.	1	ADEQUATE ADEQUATE]

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	1T	II		FR	29/88 CS-91 -6KF	15		0 -1						SA DATA BASELINE NEW	[
SUBSYSTEM MDAC ID:	1:			FR 91 DI														
LEAD ANA	L¥S	ST	:	D.	HAR!	ΓM	AN	i										
ASSESSMEN	NT:	:																
ASSESSMENT: CRITICALITY REDUNDANCY FLIGHT HDW/FUNC A B										SCRE	ENS				IL TEM	ſ		
	FLIGHT HDW/FUNC									В			С					
NASA IOA	[3 2	/1R /2]		[[P]	[[F]	[P]	[X X]]	*
COMPARE	[N	/N]		[N]	[N]	[N]	[]	
RECOMMEN	DA!	rI(ons:		(If	di	ff	eren	it	fr	om NA	SA)					
	C	2	/1R]		[P]	[P]	[P] (A		A /DI		ETE)
* CIL RE	TE:	NT:	ION :	RAI	'IONA	Li	€:	(If	ap	pl:	icabl			DEQUATE DEQUATE]	
REMARKS:														_				

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF

4. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

LOSE JETS ON MANIFOLD 2. REDUNDANCY PROVIDED BY JETS ON MANIFOLD

THRUSTERS.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	1/2 FRC 05-	S-9	16	60 -	2			NASA DAT BASELIN NE] K]	
SUBSYSTI MDAC ID: ITEM:				FRO 916 DIO	5									
LEAD ANA	ALY:	ST	:	D.	HAR	TMA	N							
ASSESSMI	ENT:	:												
	CR			ITY		RI	EDUN	DANC	SCR	EENS	3	CII		
	I		LIGH W/FU			A		I	3		С	ITE	SM	
NASA IOA] [3	/3 /3]		[]	[]]]	[] *]	
COMPARE	[/]		[]	[]	[]	[]	
RECOMMEN	IDA'	ri	ons:	(Ίf	dif	fere	nt fi	com N	ASA)				
	[/]		[]	[]	[] ([ADD/D) DELETE	Ξ)
* CIL RE	:			RATI	ONA	LE:	(If	app]	licab		ADEQUATE ADEQUATE	•]	
NO DIFFE	CREI	NC1	ES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/8 FRCS-9 05-6KI	17	9A-1		NASA DATA BASELINI NE	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 917 DIODE					
LEAD ANALYST:	D. HAI	RTMAN				
ASSESSMENT:						
CRITICAL		RE	DUNDANC	Y SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A		В	С	
NASA [3 /11 IOA [3 /21	R] R]	[P] [F] F]	[P] [P]	[X] * [X]
COMPARE [/N]	[] []	[]	[]
RECOMMENDATIONS	: (If	diff	erent f	rom NA	ASA)	
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* CIL RETENTION	RATION	ALE:	(If app	olicab	le) ADEQUATI INADEQUATI	
REMARKS: IOA AGREES WITH	NASA F	MEA.				

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRC	9/88 S-918 6KF-22	59A-	-2		1	NASA DAT BASELIN NE	IE [x]
SUBSYSTE MDAC ID:			FRC 918 DIO								
LEAD ANA	LYS	ST:	D.	HARTMA	N						
ASSESSME	ENT:	:									
	CRI	TICAL		R	EDUN	IDANCY	SCF	REENS		CI	_
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RECOMMEN	DAT	CIONS:	(If dif	fere	ent fr	om N	IASA)			
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* CIL RE	TEN	TION	RATI(ONALE:	(If	appl	icab	À	DEQUATE DEQUATE]

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SUBSYSTEM MDAC ID: ITEM:	:		FRO 919 DIO																
LEAD ANAI	YST:		D.	HART	MAI	1													
ASSESSMEN	IT:																		
c			RI	EDUI	MDA	1C	Y	SCR	EENS	3			CI	L EM	I				
	CRITICALITY FLIGHT HDW/FUNC								В			С							
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COMPARE	[/N	3	[]		[]	[)		[]		
RECOMMENI	DATI	SNC:		(If d	lif	fer	ent	f	r	om N	IASA)							
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REMARKS: LOSE JET 4. JETS	S ON REQ	MAN UIRE	IFC D 1	LD 2	PEL	RED PR	UND	AI LI	IC:	Y PI NTS	ROVI TO	DE:	D BY ET C	JET G LI	S MI	on Ts	M/	ANIF	OLD

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	, _, _, _,	20	2	1	NASA DATA BASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 920 DIODE						
LEAD ANALYST:	D. HART	MAN					
ASSESSMENT:							
	CALITY	REDUNI	DANCY S	CREENS		CII	_
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[/	'] [1	[]	[[DD/D] ELETE)
* CIL RETENTIO	N RATIONAL	E: (If	applic	A	DEQUATE	[]
REMARKS:							•

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SUBSYSTEM: MDAC ID: ITEM:		FRCS 921 DIODE										
LEAD ANALYS	ST:	D. HAR	(AMT	ŧ								
ASSESSMENT:	;											
CRI	TICAL:		RI	EDUND?		SCREE				CIL ITEN	1	
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* CIL RETER	NTION :	RATIONA	ALE:	(If a	appl.	icable	e) IN	ADEQUATI	E E	[]	
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SUBSYSTE MDAC ID:			FRO 922 DIO														
LEAD ANA	LYSI	r:	D.	HAR	TM	(A)	ī										
ASSESSME	NT:																
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COMPARE	[/N]		[N]	[N]	[N]		[N]	
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LEAD AN	ALYS	ST	:	D.	HAI	RTI	IAN	1													
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SUBSYSTE MDAC ID:			FRC 924 DIO	_							
LEAD ANA	LYS	T:	D. 1	HARTMA	N						
ASSESSME	ENT:										
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* CIL RE		TION :	RATI(ONALE:	(If	appl	licab	1	ADEQUAT ADEQUAT]

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SUBSYSTEM MDAC ID:	M:		FRCS 925 DIODI	3													
LEAD ANA	LYST:		D. H	ARTI	1AM	1											
ASSESSME	NT:																
ı	CRITIC FL: HDW,	IGH?	r		RI A	EDUN	DANC	CY B	SCRE	ENS	s C				[L [E]	A.	
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	[.	/]	ŧ		3	[]	[]	(A)	[DD,	/D] ELI	ETE)
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ASSESSME ASSESSME NASA FME	NT	ID:	1/29/ FRCS- 05-61	-926	59 -	2		1	NASA DA BASELI N] x]	
SUBSYSTE MDAC ID:			FRCS 926 DIODE	2								
LEAD ANA	LYS	ST:	D. HA	RTMA	N							
ASSESSME	NT:	:										
	CRI	TICAL		R	EDUN	DANC	SCR	EENS		CII		
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COMPARE	[/]	[]	[]	ĺ]	[]	
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* CIL RE	TEN	TION	RATION	ALE:	(If	appl	icab.	A	DEQUAT]	
REMARKS: NO DIFFE	REN	CES.							-	-	•	

ASSESSMEN ASSESSMEN NASA FMEA	T ID	:	FRO	CS-9	27	, 226	50 - 1						SA DA BASELI 1		[
SUBSYSTEM MDAC ID: ITEM:	:		FRO 927 DIO	7														
LEAD ANAL	YST:		D.	HAF	(T	(A)	1											
ASSESSMEN	T:																	
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COMPARE	[/N)		[]	(]	[]		[]	
RECOMMEND	ATIC	ns:		(If	d :	if	feren	nt	fr	om NA	SA)						
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* CIL RET	TENTI	ON :	RAT	IONZ	AL	E:	(If	aŗ	pl	icabl		A NA	DEQUA DEQUA	TE TE	[]	
REMARKS:	ES WI	TH	NAS	A FI	ME.	A.												

ASSESSME ASSESSME NASA FME	NT ID:	FRC	9/88 5-928 6KF-22	60	-2			SA DATA ASELINE NEW			
SUBSYSTE MDAC ID:	M:	FRCS 928 DIO									
LEAD ANA	LYST:	D. I	IARTMA	N							
ASSESSME	NT:										
	CRITICA FLIC		R	EDUI	NDANCY	SCI	REENS		CI	L EM	
	HDW/I	UNC	A		F	3	С				
NASA IOA	[3 /3	R]	[[P]	[[E	,] ,]	[[P]	[x]	*
COMPARE	[/1	,]	[N]	[]	1]	[N]	[N]	
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ASSESSME ASSESSME NASA FME	NT ID:	1/29/8 FRCS-9 05-6KF	29	59 A- 1			ì	IASA DATA BASELINE NEW			
SUBSYSTEMDAC ID:		FRCS 929 DIODE									
LEAD ANA	LYST:	D. HAF	(AMT	1							
ASSESSME	NT:										
	CRITICAL FLIGH HDW/FU	T	RI A	EDUND	ANCY B	SCREI			CI:		
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COMPARE	[/N]	[]	[]	[]	(J	
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ASSESSME ASSESSME NASA FME	NT I	D:	FRC	9/88 5-930 6KF-22	59A-	·2			NASA DA' BASELII N		x]	
SUBSYSTE MDAC ID:			FRC: 930 DIO									
LEAD ANA	LYST	:	D. 1	HARTMA	N							
ASSESSME	NT:											
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SUBSYSTEM MDAC ID:	M:		FR 93 DI																	
LEAD ANA	LYST:	:	D.	HAF	(T)	(A)	1													
ASSESSME	NT:																			
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COMPARE	[/N]		[]		[]		[]			[3	
RECOMMEN	DATI	ons:		(If	d :	if	fere	nt	fr	om	NAS	A)	١							
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REMARKS:																				

ASSESSME ASSESSME NASA FME	NT	ID		FRC	9/88 S-932 6KF-22	59 -	-2		ì	NASA DA BASELI N		x]	
SUBSYSTE MDAC ID:				FRC 932 DIO									
LEAD ANA	LYS	ST:		D.	HARTMA	N							
ASSESSME	NT:	:											
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SUBSYSTEM MDAC ID:	м:		FRO 933 DIO	3														
LEAD ANA	LYS	r:	D.	HARTI	NAN	Ī												
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COMPARE	C	/N]	[]		[]	[]		[]	
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REMARKS:		WITH	NAS	A FME	A.													

ASSESSME ASSESSME NASA FME	NT I	D:	1/29/ FRCS- 05-6K	934		-2			ASA DATA BASELINI NEV] x]
SUBSYSTE MDAC ID:	M:		FRCS 934 DIODE								
LEAD ANA	LYST	:	D. HA	RTM	AN						
ASSESSME	NT:										
	CRIT:	ICAL:		:	REDUN	NDANCY	SCF	REENS		CII	
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IOA AGRE	es Wi	TH N	iasa fi	MEA.	•						

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS	5-9	35		6 -1	L						DATA LINE NEW	[
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 935 DIO																
LEAD ANA	LYSI	r:	D. 1	HAR	TM	IAN	ī												
ASSESSME	NT:																		
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COMPARE	[/N]		[]		[3	[]		[•])	
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SUBSYSTE MDAC ID:				93	RCS 17 CODE																
LEAD ANA	ALYS	ST	:	D.	HAI	RT1	IAN	1													
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ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	9/88 5-938 5KF-22	71 -	-2		N	ASA DAT BASELIM NI	1E [(]	
SUBSYSTE MDAC ID:	M:		FRCS 938 DIOI									
LEAD ANA	LYS	T:	D. H	IARTMA	N							
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REMARKS:								INA	DECOUL	- [J	

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-939 NASA FMEA #: 05-6KF-2259A												N	iasa Basi		E	-]	
SUBSYSTE MDAC ID: ITEM:	M:		FR 93 DI																
LEAD ANA	LYST	:	D.	HAR	TM	(A)	1												
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ASSESSME ASSESSME NASA FME	INT	ID:	FRC	9/88 S-940 6KF-22	-2]	NASA DAT BASELIN NE		x]	
SUBSYSTE MDAC ID:			FRCS 940 DIO								
LEAD ANA	LYS	T:	D. I	HARTMA	N						
ASSESSME	NT:										
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NASA IOA	[3 /3 3 /3]	[]	[[]	[]	[[] *
COMPARE	[/]	[]	[]	[]	[]
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* CIL RE	TEN	TION 1	RATIO	ONALE:	(If	app]	licab	1	ADEQUATE ADEQUATE]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		59 - 1		NASA DATA BASELINE NEW							
MDAC ID:	FRCS 941 DIODE										
LEAD ANALYST:	D. HARTMAI	N									
ASSESSMENT:											
CRITICAL FLIGH		EDUNDANCY	SCREENS	5	CIL ITEM						
HDW/FU		E	3	С	IIEM						
NASA [3 /1R IOA [3 /2R] [P] [F] [P] P]	[X] * [X]						
COMPARE [/N] [] [] [1	[]						
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* CIL RETENTION	RATIONALE:	(If appl	•	ADEQUATE ADEQUATE							
REMARKS: LOSE JETS ON MANIFOLD 4 AND 5. REDUNDANCY FOR MANIFOLD 4 JETS PROVIDED BY JETS ON MANIFOLD 2. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.											

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	NT ID	: Fi	/29/88 RCS-942 5-6KF-22	59 -	2		N	IASA DA BASEL:		[]	
SUBSYSTE MDAC ID: ITEM:	M:	9	RCS 42 IODE									
LEAD ANA	LYST:	D	. HARTMA	N								
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	CRITIC	CALIT	Y R	EDUN	DANCY	SCRE	ENS			CIL		
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-943 05-6KF-2	260 -1		NASA DATA: BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 943 DIODE												
LEAD ANALYST:	D. HARTN	1AN											
ASSESSMENT:	CIL												
CRITICAL		REDUNDAN	CY SCREE	NS	ITEM								
FLIGH HDW/FU		A	В	С									
NASA [3 /1F IOA [2 /2	R] [P] [F]	[P] []	[X] *								
COMPARE [N /N] [N]	N]	[и]	[]								
RECOMMENDATIONS	: (If d	lifferent	from NAS	A)									
[2 /1		P]	[P]	[P]	[A] ADD/DELETE)								
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []													
REMARKS: LOSE JETS ON MANIFOLD 4. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 2. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.													

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

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FLIG					REDUI	NDANC	Y SCI	REENS				_	
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DA'I	CIO	ns:	(:	If dif	fere	ent fr	om N	ASA)					
			-	ſ		_		-]	(AI	[]\DC] ŒLF	TE:
			RATIO	ONALE:	(If	appl	icab	A		TE	[]	•
	ENT EM: CR [[DAT	ENT I EA #: EM: : ALYST ENT: CRIT: HD: [3 [3] [TENTI	ENT ID: EA #: EM: : ALYST: ENT: CRITICAL FLIGH HDW/FI [3 /3 [3 /3 [/ DATIONS:	ENT ID: FROM EA #: 05- EM: FROM FROM EM: FROM EM: PA 44 DICTION FROM ENT: CRITICALITY FLIGHT HDW/FUNC [3 /3] [3 /3] [4] TDATIONS: (1) TENTION RATION	EA #: 05-6KF-2 EM: FRCS : 944 DIODE ALYST: D. HARTM ENT: CRITICALITY FLIGHT HDW/FUNC [3 /3] [[3 /3] [[/] [DATIONS: (If different content of the	ENT ID: FRCS-944 EA #: 05-6KF-2260 EM: FRCS 944 DIODE ALYST: D. HARTMAN ENT: CRITICALITY REDUITED FLIGHT HDW/FUNC A [3 /3] [] [3 /3] [] [3 /3] [] [/] [] DATIONS: (If different function of the content	ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944	ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944	ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944	ENT ID: FRCS-944 BASE EA #: 05-6KF-2260 -2 EM: FRCS : 944	ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944 DIODE ALYST: D. HARTMAN ENT: CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C [3/3] [] [] [] [] [3/3] [] [] [] [/] [] [] DATIONS: (If different from NASA) [//] [] [] [] TENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE	ENT ID: FRCS-944 BASELINE [EA #: 05-6KF-2260 -2 NEW [EM: FRCS : 944 DIODE ALYST: D. HARTMAN ENT: CRITICALITY REDUNDANCY SCREENS CIFLIGHT HDW/FUNC A B C [3/3] [] [] [] [] [] [] [3/3] [] [] [] [] [MATIONS: (If different from NASA) [/] [] [] [] [] CDATIONS: (If different from NASA) [/] [] [] [] [] TENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE [ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944 DIODE ALYST: D. HARTMAN ENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C [3/3] [] [] [] [] [] [] [3/3] [] [] [] [] [] [4] [] [] [] [] [] DATIONS: (If different from NASA) [/] [] [] [] [] TENTION RATIONALE: (If applicable) ADEQUATE []

ASSESSM ASSESSM NASA FM	TENT	ID	:	1/29 FRCS 05-6	5-9	45	′0 – 1	L		ì	NASA DA BASELI N]	
SUBSYST MDAC II ITEM:				FRCS 945 DIO												
LEAD AN	IALY	ST:		D. 1	HAR	TMAN	ī									
ASSESSN	IENT	:														
	CRITICALITY FLIGHT							DANCY	SCREE	ens			CI	L EM	4	
	1			NC		A		В	_						•	
NAS!	A [2 ,	/2 /2]		[]	[]	[]]	X X]	*
COMPARI	Ξ [/]		[]	[]	[]		[]	
RECOMMI	ENDA'	TIO	ns:	(Ιf	difi	fere	nt fro	om NAS	SA)						
	[/]		[]	[]	[1	(AI		DI		ETE)
* CIL I	RETE	NTI	ON	RATI	ONA	LE:	(If	appl:	icable	1	ADEQUAT ADEQUAT		[]	
REMARKS	s:															

ASSESSME ASSESSME NASA FME	TK	II):	FRC		; !270 -	-2		ì		DATA LINE NEW	[,]
SUBSYSTE MDAC ID:				FRC 946 DIO									
LEAD ANA	LYS	T:	:	D.	HARTM	IAN							
ASSESSME	NT:												
	CRI					REDUI	NDANC	scr	EENS			CII	
	FLIGHT HDW/FUNC					A	1	3	C	2		ITI	SM
NASA IOA	[3	/3 /3]	[]	[]	[]		[] *
COMPARE	[/]	[]	[]	[]		[]
RECOMMEN	DAT	'IC	ons:	(If di	ffere	ent fi	com N	ASA)				
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* CIL RE		T	CON	RATI	ONALE	: (Ii	f app]	licab	P	ADEQU ADEQU	ATE ATE	[]
NO DIFFE		ICE	ES.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-947 05-6KF-22	214 -1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 947 DRIVER, I	HYBRID			
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL		REDUNDAI	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1H IOA [2 /2	R] [P]	[P] []	[P] []	[] * [X]
COMPARE [N /N] [и]	[N]	[N]	[]
RECOMMENDATIONS	: (If di	ifferent	from NAS	SA)	
[2 /1	R] [P]	[P]	[P]	[A] ADD/DELETE)
* CIL RETENTION	RATIONALI	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS:		DEDIMI	NAMOV DDO	VIDED BY JE	rs on manifoli

LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	1/29/ FRCS- 05-61	/88 -94 (F-	3 18 -22	214	-2				NASA DA BASELI	INE	[[X]					
SUBSYSTE MDAC ID:	: M				FRCS 948 DRIVE												
LEAD ANA	LY	ST	:	I). НА	RT	MA	N									
ASSESSME	NT	:															
	LIG	TH	Y:		R A		NDAI	NCY E		CREENS	:		CIL TEM				
NASA IOA	[3 2	/1F /2	R]		[P]		F]	[F)]	[X]	*	
COMPARE	[N	/N]		[N]	(N]	[N]	[
RECOMMENI	DAT	'IC	ens:		(If	d:	if	fere	ent	fr	om	NASA)					
			/3					_				1] ADD	D] /DEL	ETE)	
* CIL RET	EN	TI	ON	RA'	rion?	LE	E:	(If	ap	pl:	ica						
REMARKS:												INA	DEQUATE DEQUATE	j]		
NASA FMEA EFFECT.	C	ON	SID	ERS	MUL	ΤI	PI	Æ F	'AIL	URI	Es.	THIS	FAILUR	E A	LONE	HAS	NC

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-949 NASA FMEA #: 05-6KF-2214 -: SUBSYSTEM: FRCS											SA DAT ASELIN NE				
SUBSYSTEM MDAC ID:	M:		949	ER, F	IYBRI	Œ									
LEAD ANA	LYST	:	D. H	IARTM?	N										
ASSESSME	NT:														
(1	REDUI	NDANO	CY	SCF	REENS	;		CII ITE						
		LIGH W/FU		1	A		В			С					
NASA IOA	[3 [2	/1R /2]	[] [?]	[P]	[[P]	[[}	[]	*	
COMPARE	[N	/N]	[1	1]	[N]	[N]	[]		
RECOMMEN	DATI	ons:	(1	f di	ffer	ent i	fro	om 1	NASA)						
	[2	/1R	,]	[]	P]	[P]	[P]		A] DELI	ETE)	
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []															
REMARKS: LOSE JETS ON MANIFOLD 2. REDUNDANCY PROVIDED BY JETS ON MANIFOLD															

4. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA BASE									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 950 DRIVER, HYBRID										
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICAL: FLIGH		ANCY SCREENS	CIL ITEM								
HDW/FU		в с	IIEM								
NASA [3 /1R IOA [2 /2] [P]] []	[F] [P]	[X] * [X]								
COMPARE [N /N] [N]	[и] [и]	[]								
RECOMMENDATIONS:	(If differen	t from NASA)									
[3 /3	[D] (ADD/DELETE)										
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
REMARKS: NASA FMEA CONSIDI EFFECT.	ERS MULTIPLE FA	ILURES. THIS FAII	LURE ALONE HAS NO								

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FME	NT ID:	FR	29/88 CS-95 -6KF-	51	.4 -1						SA DA ASELI N		[x]	
SUBSYSTEM MDAC ID:	M:	FF 95 DF		, ну	BRID)										
LEAD ANA	LYST:	D.	HART	(AM	1											
ASSESSME	NT:															
4	CRITIC	ALITY GHT	<u>r</u>	RI	EDUNE	ANC	CY	SCRE	ENS	3				L EN	1	
		FUNC		A			В			С						
NASA IOA	[3 /	'1R] '2R]		[P [P]	[P P]	[P P]		[]	*
COMPARE	[/	'N]		[]	[N]	[]		[N]	
RECOMMEN	DATION	is:	(If	dif:	ferer	nt :	fro	om NA	SA)						
	[/	<i>'</i>]		[]	[]	[]	(A)] DD,	/DI	ETI]	ETE)
* CIL RE	TENTI	ON RA	riona.	LE:	(If	ap	pl:	icabl		IA IAN	DEQUA DEQUA	TE TE	[]	
REMARKS:																

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME	NT I NT] A #:	DATE: [D:	1/ FR 05	29/8 CS-9 -6KI	88 952 F-2	221	L 4	-2							ASA DAT BASELIN NI	ΙE	[x			
SUBSYSTE MDAC ID: ITEM:			FR 95	CS																	
LEAD ANA	LYSI	r:	D.	HAI	RTM	(A)	1														
ASSESSME	NT:																				
		'ICAL 'LIGH'				RI	EDU:	NDA	NC	Y	sc	REE	NS	3			CI				
		W/FU				A				В				С			1.1	EM	1		
NASA IOA	[3	/1R /2R]]	P P]]	F P]]	P P]]	X]	*	
COMPARE	[/N]		[]		[N]		[]		[N]		
RECOMMEN	DATI	ONS:		(If	di	ff	er	ent	f	rc	om I	NAS.	A)								
	[3	/3]		[]		[]		[ΑC		D DE		ETE)	
* CIL RET	PENT	'ION I	RAT:	ANOI	LE	:	(I:	f a	pp	1 i	.cal		-		EQUATE		[]		
NASA FME	A CO	NSIDI	ERS	MUL	ТI	ΡI	Æ 1	FAI]	LU	RE	s.	T	HI	S	FAILUR	E	AL	ON	E	HAS	ИО

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME									ASA DAT			,	
ASSESSMEI NASA FME						1			BASELIN NE	W [
SUBSYSTEM MDAC ID:	M:		FRCS 953 DRIVE	R, 1	HYBRI	D							
LEAD ANA	LYST	:	D. HA	RTM	AN								
ASSESSME	T:												
·		ICAL:	[TY r	1	REDUN	DANCY	SCRI	EENS			IL CEM	r	
			VC		A	В		С		-		•	
NASA IOA	[3	/1R /2R]	[]	P] P]	[P]	[P]	[]	*
COMPARE	[/N]	[]	[и]	[]	[N]	
RECOMMENI	DATI	ons:	(If	di	ffere	nt fr	om NA	ASA)					
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* CIL RE	CENT:	ION I	RATION	ALE	: (If	appl	icab]	Α.	DEQUATE DEQUATE	[]	
REMARKS:									2 31121			,	

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		D.1	SA DATA: ASELINE [] NEW [X]
	FRCS 954 DRIVER, HYBRID		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH	T	DANCY SCREENS	CIL ITEM
HDW/FU	NC A	в с	
NASA [3 /1R IOA [2 /2	[P]] []	[F] [P]	[X] * [X]
COMPARE [N /N] [N]	[N] [N]] []
RECOMMENDATIONS:	(If differer	nt from NASA)	
[3 /3] []	[] [[D] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	ADI	EQUATE [] EQUATE []
REMARKS:	ERS MULTIPLE FA		FAILURE ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

EFFECT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-955	5 2214 - 2		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 955 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTI	MAN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREE	ens	CIL ITEM
HDW/FU		A	В	С	
NASA [3 /1R IOA [2 /2] [P]	[F] []	[P] []	[X] *
COMPARE [N /N] [и]	[и]	[N]	[]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[3 /3] []	[]	[] (A	[D] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicable	e) ADEQUATE INADEQUATE	-
REMARKS: NASA FMEA CONSID EFFECT.	ERS MULT	IPLE FAI	LURES. 5	THIS FAILURE	ALONE HAS NO
AT MEETING WITH	SUBSYSTE	M MANAGE	R ON 1/2	0/88, NSTS 2	2206 WAS

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT	D I #:	ATE: D:		/88 -95 KF-	6 22	14 -:	1					ASA DA' BASELII NI	NE	-]	
SUBSYSTE MDAC ID: ITEM:		•	1	FRCS 956 DRIVI														
LEAD ANA	LYS	ST	:	D. H2	ART	MA	N											
ASSESSME	NT:	:																
	CR]		ICAL: LIGH	ITY		R	EDUNI	OAN	CY	SCRI	EEN	s			CI		_	
	ŀ		W/FU			A			В			С			IT	EN	[
NASA IOA	[3 2	/1R /2]	[P]	[P]	[P]		[x]	*
COMPARE	[N	/N]	[N]	[N]	[N]		[]	
RECOMMEN	DAT	PI)	ONS:	(If	đ	if	ferer	nt 1	fro	om NA	ASA;)						
	[2	/1R]	[P]	[P]	[P			[D/			TE)
* CIL RE	ren	T	ION I	RATION	I AL I	Ξ:	(If	app	ol i	cabl	·		EQUATE		[]	
LOSE JET	S C	N EQU	MAN] JIREI	FOLD TO E	4. XPI	EL	REDUN PROP	DAN	ICY	PRC	IIVO I O'	DEI MEE	BY JE	TS IM	O IT:	N S.	MA	NIFOLD

ASSESSME ASSESSME NASA FME	ΝT	II):	FRC		20 -	1			ASA I BASEI	LINE			
SUBSYSTE MDAC ID:	M:			FRC 957 DRI		YBRI	:D							
LEAD ANA	LYS	ST:	:	D.	HARTMA	N								
ASSESSME	NT:	3												
	CRI		CAI LIGH	ITY	F	EDUN	IDANCY	SCR	EENS			CII		
	F			NC	A		В		C	}				
NASA IOA	[2	/2 /2]	[]	[]	[]		[3	[]	*
COMPARE	[/	3	[]	[]	[]		[]	
RECOMMEN	DAT	ric	ons:	(If dif	fere	ent fr	om N	IASA)					
	[/]	[]	[]	[]	(A	[.DD/I] DELI	ETE)
* CIL RE	TEI	YT:	ION	RATI	ONALE:	(If	f appl	icab	P	DEQUA]	
REMARKS:	RE	NCI	ES.											

ASSESSME ASSESSME NASA FME	NT I	ATE: D:	1/29/ FRCS- 05-6K	958	220	-2			1	NASA BASE		[) x]		
SUBSYSTE MDAC ID:			FRCS 958 DRIVE	R,	нув	RID									
LEAD ANA	LYST	:	D. HA	RTM	AN										
ASSESSME	NT:														
	CRIT:	ICAL:			RED	UNDAN	CY	sc	REENS			CI			
		W/FUI			A		В		•	С		IT	EM		
NASA IOA	[3 [3	/2R /3]	[P]	[F]	[]	P]		[x]	*	
COMPARE	[/N]	[N]	[N	1	[]	ן א		[]	N]		
RECOMMEN	DATI	ons:	(If	di	ffe	rent :	fro	om l	NASA)						
	[3	/3]	[]	[)	[]	(A)		D]	ETE)	
* CIL RE	TENT	ION I	RATION	ALE	: (If ap	pli	ical		ADEQUA ADEQUA		[]		
REMARKS: NASA FME EFFECT.	A COI	NSIDI	ers mu	LTI	PLE	FAIL	URI	ES.	THIS	S FAI	LURE	AL	ONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME					9 200)9 - :	1					ASA DA BASELI N	NE	[[x		
SUBSYSTE MDAC ID: ITEM:			FRCS 959 FUSE,													
LEAD ANA	LYST	:	D. HA	RTI	IAN	1										
ASSESSME	NT:															
			TY		RI	EDUNI	OANC	CY	SCF	REEN	S			CIL ITEN	<i>a</i>	
		LIGHT N/FUN	1C		A			В			С			TIEF	1	
NASA IOA	[3 [3	/2R /3]	[P]	[P]	[[P]		[[]	*
COMPARE	[/N]	[N]	[N]	[N]		[]	
RECOMMEN	DATIC	ons:	(If	d:	ifi	fere	nt 1	fro	om N	NASA)					
	[2	/1R]	[P]	[P]	Ţ	P	1		[A D/DI		CTE)
* CIL RE	TENT	ION F	RATION	AL	Ε:	(If	app) 1	icat	•		DEQUAT DEQUAT		[]	
LOSE JET																
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ASSESSME ASSESSME NASA FME	NT	II):	FRCS-	96	200))8 - 1						ASA DATA BASELINE NEW	[x]
SUBSYSTE MDAC ID: ITEM:				FRCS 960 FUSE,	12	A										
LEAD ANA	LYS	T:	;	D. HA	RTI	(A)	ī									
ASSESSME	NT:															
	CRI			ITY		RI	EDUND	ANO	CY	SCF	REENS	3			L	e.
	Н		LIGH' V/FU	NC		A			В			С		1.1	CEM	1
NASA IOA]	[P]	[P]]	P]	[x] *
COMPARE	[N	/N]	[N	1	[N	1	ſ	N	1	[N]
RECOMMEN	DAT	'IC	ONS:	(If	d :	ifí	feren	t :	fro	om N	IASA))				
	[2	/1R	1	[P]	[P]	[P			A /DE] ELETE)
* CIL RE	TEN	T	ION I	RATION	AL	Ξ:	(If	app) 1	icab	·		DEQUATE DEQUATE	[]
	's c												BY JETS			MANIFOLD

ISSUE IS TIED TO THE IOA HARDWARE ISSUE FOR FAILED OFF THRUSTERS.

ASSESSMEN ASSESSMEN NASA FME	NT ID:	1/29/6 FRCS-9 05-6K	961	07 -1				ASA DATA BASELINE NEW		
SUBSYSTEM MDAC ID:	M:	FRCS 961 FUSE,	1 A							
LEAD ANA	LYST:	D. HA	RTMA	N						
ASSESSME	NT:									
	CRITICA		R	EDUND	ANCY	SCRE	ens		CIL	
	FLIG HDW/F		A		В		С			· -
NASA IOA	[3 /1 [3 /2	R] R]	[P]	[P [P]	[P]	[] *]
COMPARE	[/N]	[]	[]	(]	[]
RECOMMEN	DATIONS	: (If	dif	feren	t fr	om NA	SA)			
	[2 /1	R]	[F)	[P]	[P	(A	A] DD/D] ELETE)
* CIL RE	TENTION	RATION	ALE:	(If	appl	icabl	A	DEQUATE]

REMARKS: LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ASSESSME ASSESSME NASA FME	ENT D ENT I EA #:	ATE:	1/29/ FRCS- 05-6F	′88 ·96 (F–	2 20	09 -	-1					ASA DATA BASELINE NEW		•
SUBSYSTE MDAC ID:	M:		FRCS 962 FUSE,											
LEAD ANA	LYST	':	D. HA	RT	MAI	N								
ASSESSME	ENT:													
		ICAL	ITY T		RI	EDUN	IDAN	CY	SCI	REENS	S		CIL	
	HD	W/FU	NC		A			В			С			
NASA IOA		/2R /3]	[P]	[P]	[P]	[] *]
COMPARE	[/N]	[N]	[N]	[N	1	[]
RECOMMEN	DATI	ons:	(If	d :	ifi	fere	nt i	fro	om 1	NASA))			
	[2	/1R	1	(P]	[P]	[P		[A DD/D] ELETE)
* CIL RE		ION 1	RATION	ALI	Ε:	(If	app	oli	cak	-		DEQUATE DEQUATE]
REMARKS: LOSE JET 4. JETS	S ON	MAN; UIRE	IFOLD D FOR	2. TO	E)	REDU KPEL	NDAN PRO	ICY OPE	PE	ROVII	EI TC	BY JET MEET C	S ON G LI	MANIFOLD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-963 05-6KF-20	008 -1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 963 FUSE, 1A				
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL		REDUNDAN	CY SCREEN	IS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /11 IOA [2 /2		P] [P] [P]	[x] *
COMPARE [N /N] [и] [и] [[N]	[N]
RECOMMENDATIONS	: (If di	lfferent	from NAS	A)	
[2 /1		P] [P]	[P]	[A] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ag) ADEQUATE INADEQUATE	[]
REMARKS: LOSE JETS ON MA 4. JETS REQUIR	NIFOLD 2. ED TO EXP	REDUNDA EL PROPE	ANCY PROV LLANTS TO	IDED BY JET	rs on manifold imits.

ISSUE IS TIED TO THE IOA HARDWARE ISSUE FOR FAILED OFF THRUSTERS.

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	; [;]	DATE:	1/29/ FRCS- 05-61	/88 -96 KF-	4-20	07	-1					IASA DA BASEL]	NE]	
SUBSYSTI MDAC ID: ITEM:	ur.			FRCS 964 FUSE,												•	
LEAD ANA	ALY	ST	':	D. HA	RT	MA	N										
ASSESSME	ENT	:															
	CR		ICAL LIGH	ITY F		R	EDU	NDAN	CY	S	CREEN	S			CIL		
]	HD	W/FU	NC		A			В			С			ITE	M	
NASA IOA	[3	/1R /2R]	[P P]	[P P]	[P P]		[]	*
COMPARE	[/N]	ĺ]	ſ]	ſ]		[]	
RECOMMEN	DAT	ric	ONS:	(If	d:	ifi	fere	ent f	rc	m	NASA))					
	[2	/1R]	[P]	[P]	[P	_		[A D/DE		TE)
* CIL RE	TEN	T	ON F	RATION	ALE	:	(If	app	li	.ca	ble)						
REMARKS:												IAD	EQUATE EQUATE	E	[]	
LOSE JETS	S C RE	N QU	MANI URED	FOLD 2	2. KPE	L	PRO	NDAN PELL	CY AN	P TS	ROVID	ED	BY JE	TS LIM:	ON ITS.	MAI	NIFOLD

ASSESSMEN ASSESSMEN NASA FME	I TV	D:	FRC	9/88 S-965 -6KF-2)9 - 1	L					ASA DA BASELI N	NE]	
SUBSYSTEM MDAC ID:	M:		FRC 965 FUS		A											
LEAD ANA	LYSI	?:	D.	HARTI	(A)	1										
ASSESSME	T:															
(F	TICAL FLIGH OW/FU	T		RE A	EDUNI	OAN	CY B	SCF	REEN	is C			CIL	1	
		•												_	_	
NASA IOA		3 /2R 3 /3]	P]	[Р]		. P]		[] ;	*
COMPARE	[/N)	[N	1	ſ	N]	1	N]		C]	
RECOMMEN	DATI	ons:	((If d	iff	fere	nt :	fro	om 1	NASA	A)					
	[2	2 /1R].	[P]	[P]	1	[P]	(Al	[A DD/DI		re)
* CIL RET	rent	MOIT	RATI	CONAL	Ξ:	(If	ap	pl:	ical		A	DEQUAT DEQUAT		[]	

2. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

LOSE JETS ON MANIFOLD 4. REDUNDANCY PROVIDED BY JETS ON MANIFOLD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 966 FUSE, 1A		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL		CY SCREENS	CIL
FLIGH HDW/FU		В С	ITEM
NASA [3 /1R IOA [2 /2] [P] [P] [P]	[
COMPARE [N /N] [N][и] [и]	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[2 /1R] [P] [P] [P] (AI	[A] DD/DELETE)
* CIL RETENTION	RATIONALE: (If app	- · · · · · · · · · · · · · · · · · · ·	
		ADEQUATE INADEQUATE	[]
		NCY PROVIDED BY JETS LANTS TO MEET CG LIN	S ON MANIFOLD

ISSUE IS TIED TO THE IOA HARDWARE ISSUE FOR FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	NT D NT I A #:	ATE: D:	1/29/8 FRCS-9 05-6K	38 967 F-2	7 200)7 - 1						ASA DA BASELI N		[x]		
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 967 FUSE,															
LEAD ANA	LYST	:	D. HAI	RTN	(A)	1												
ASSESSME	NT:																	
		ICALI LIGHT	TY		RE	EDUND.	ANG	CY	SCRE	ENS	3			CI:				
	HD	W/FUN	iC		A			В			С							
NASA IOA	[3 [3	/1R /2R]	[P P]	[P P]	[P P]		[]	*	
COMPARE	[/N]	[]	[]	[]		[]		
RECOMMEN	DATI	ons:	(If	đi	ff	eren	t 1	rc	om NAS	SA))							
	[2	/1R]	(P	J	[P]	[P]	(AD	[/ [D/]			TE)	
* CIL RE	TENT	ION F	RATIONA	LE	:	(If	app	ol i	.cable	≥)		\		_				
										I		DEQUAT DEQUAT		[]		

REMARKS:

LOSE JETS ON MANIFOLD 3. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 1. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ASSESSME ASSESSME NASA FME	NT	ID:	F	RCS-		.7 -	1				DATA: LINE NEW	[]	
SUBSYSTEM MDAC ID:	M:		F: 9 F		1 A										
LEAD ANA	LYS	T:	D	. HA	RTMAN	ī									
ASSESSME	NT:														
	CRI		ALIT	Y	RI	EDUN	DANCY	SCR	EENS			CI IT		ī	
	H		FUNC		A		В		c	:				•	
NASA IOA	[2 /	[2] [2]		[]	[]	[[]		[X X]	*
COMPARE	ĺ	/	']		[]	[]	[]		[]	
RECOMMEN	DAI	CION	is:	(If	dif	fere	ent fr	om N	IASA)						
	[/	']		[]	[]	[]	(A		DE		ETE)
* CIL RE				MOIT.	IALE:	(If	appl	icab	7		IATE IATE]	

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:		FI	RCS-9	96		o7 ·	-1							ASA BAS	ELI		[x]	
SUBSYSTIMDAC ID:					96	RCS 59 JSE,	12	A															
LEAD AND	ALY	ST	:		D.	HAI	RTI	IAN	1														
ASSESSMI	ENT	:																					
		F	LI	GHT	[ľ			EDUI	NDA	NC	CY	SCI	REE	NS					CI	L EN	ſ	
]	HDI	W/	FUI	1C			A				В				С							
NASA IOA	[3 3	/	1R 2R]		[P P]		[P P]		[P P]			[]	*
COMPARE	[/]		[]		[]		(]			[]	
RECOMMEN	NDA!	ric	ЭМ	s:		(If	d:	ifí	fere	ent	: f	r	om 1	NAS	A)								
	[/]		[]		[]		[)		(Al	[DD/	'DE] :Li	ETE)
* CIL RE		n T :	IO	N F	RAI	NOI	LI	Ξ:	(II	f a	pp	ol i	.cak				DEQI			[]	

IOA AGREES WITH NASA FMEA.

ASSESSMEN ASSESSMEN NASA FMEA	II TI	D:	FR	cs-9	70	00	8 -1	L				N		SELINE NEW	[
SUBSYSTEN MDAC ID: ITEM:	1:		FRO 970 FU		1 <i>A</i>	L													
LEAD ANAI	LYST	:	D.	HAR	TM	IAN	ī												
ASSESSMEN	NT:																		
C		ICAL: LIGH'				RE	EDUNI	DANC	Ϋ́	sc	CREEN	S				IL TEM	ſ		
		W/FU				A			В			C	:		•		•		
NASA IOA	[3 [2	/1R /2]		[P]]	P]	[I	•]	[x]	*	
COMPARE	[N	/N	3		[N]	[N]	[ì	1]	[N]		
RECOMMENI	DATI	ons:		(If	di	ff	fere	nt i	fro	om	NASA	۲)							
	[2	/1R]		[P]	[P]	(I	?] (A		A /DI		ETE)	
* CIL RE	PENT	ION :	RAT	ION?	ALI	€:	(If	app	91 :	ica		2		EQUATE EQUATE]		
REMARKS: LOSE JETS 2. JETS	S ON REQ	MAN UIRE	IFO D T	LD 4	1. KPI	I EL	REDUI PRO	NDAI PEL	NC:	Y I	PROVI	DI MI	ED EE'	BY JET F CG LI	'S MI	ON TS	M2	ANIF	OLD

ISSUE IS TIED TO THE IOA HARDWARE ISSUE FOR FAILED OFF THRUSTERS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-971 05-6KF-20	17 - 1			NASA DA BASELI N]
	FRCS 971 FUSE, 1A						
LEAD ANALYST:	D. HARTMA	N					
ASSESSMENT:							
CRITICAL		EDUND	ANCY	SCREE	1 S	CIL ITEM	Į.
FLIGH HDW/FU			В		С		
NASA [2 /2 IOA [2 /2] []	[]	[]	x]] *
COMPARE [/] []	[3	[]	[]
RECOMMENDATIONS:	(If di	fferer	nt fr	om NAS	A)		
[/] []	[]	[]	[(ADD/DI] ELETE)
* CIL RETENTION REMARKS: NO DIFFERENCES.	RATIONALE	: (If	appl	icable	ADEQUA]

ASSESSMI ASSESSMI NASA FMI	LN E	'I	D:	F	/29/8: RCS-9 5-6KF	72	.30	-1					ASA DAT BASELIN NE]	
SUBSYSTE MDAC ID:				9	RCS 72 ELAY												
LEAD ANA	LY	ST	:	D	. HART	'MA	N										
ASSESSME	NT	:															
	CR		ICAI LIGI		Ž.	R	EDU	NDAN	CY	SCI	REENS	3			IL CEM	•	
	•	HD	W/Ft	JNC		A			В			С		1.	LEN	•	
NASA IOA	[3 2	/1F /2	?]]	[P]]	P]	[P]	[x] *]	
COMPARE	[N	/N]	[N]]	N]	ι	N]	[N]	
RECOMMEN	DA:	ric	ons:		(If d	if:	fere	ent f	ro	om N	VASA)						
	[2	/1R	2]	[P]	[P)	[P			A DE:] LETI	Ξ)
* CIL RET											IN	AD	EQUATE EQUATE	į]	
LOSE JETS	3 C	N	MAN	IFO	LD 1.	FT	REDU	NDAN	CY	PR	OVID	ED	BY JET	s o	N I	(AA	FOL

'n JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ACCECCMENT ID. F	L/29/88 FRCS-973 D5-6KF-2130 -2	NASA DATA: BASELINE NEW	[x]
MDAC ID: 9	FRCS 973 RELAY		
LEAD ANALYST: D). HARTMAN		
ASSESSMENT:			
CRITICALIT FLIGHT	TY REDUNDANCY	2 0112=112	CIL ITEM
HDW/FUNC	C A B		
NASA [3 /1R] IOA [3 /3]] [P] [P] [] [[P]] []	[] *
COMPARE [/N]	מן נאן נ] [N]	[]
RECOMMENDATIONS:	(If different fr	om NASA)	
[3 /3]] [] [] [] (AD	[DD/DELETE)
* CIL RETENTION RA	ATIONALE: (If appl	icable)	
		ADEQUATE INADEQUATE	[]
REMARKS: NASA FMEA CONSIDER EFFECT.	RS MULTIPLE FAILUR	RES. THIS FAILURE	ALONE HAS NO
AT MEETING WITH SU	UBSYSTEM MANAGER C	ON 1/20/88, NSTS 22	2206 WAS

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-974	-1	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 974 RELAY			
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL: FLIGH		NDANCY SCREI	ENS	CIL
HDW/FU		В	С	ITEM
NASA [3 /1R IOA [2 /2] [P]] []	[P] []	[P] []	[] * [x]
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differ	ent from NAS	5 A)	
[2 /1R] [P]	[P]		[A] DD/DELETE)
* CIL RETENTION I	RATIONALE: (I	f applicable	e) ADEQUATE INADEQUATE	[]
REMARKS: LOSE JETS OF MAND 4. JETS REQUIRED	FOLD 2. RED TO EXPEL PR	UNDANCY PROV OPELLANTS TO	JIDED BY JET	S ON MANIFOLD

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	FRCS-97			NASA DATA BASELINE NEW								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 975 RELAY											
LEAD ANALYST:	D. HART	MAN										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL ITEM												
HDW/		A	В	С								
NASA [3 /	lR] [3] [[P]	[P] []	[P] []	[] *							
COMPARE [/	4] [[и]	[и]	[N]	[]							
RECOMMENDATION	S: (If o	differen	t from NA	ASA)								
[3 /	3]	[]	[]	[] (A)	[] .DD/DELETE)							
* CIL RETENTIO	N RATIONA	LE: (If	applicabl	.e) ADEQUATE INADEQUATE	[]							
REMARKS: NASA FMEA CONS EFFECT.	IDERS MUL	TIPLE FA	ILURES.	THIS FAILURE	ALONE HAS NO							
AT MEETING WIT	H SUBSYST	EM MANAG	ER ON 1/2	20/88, NSTS 2	2206 WAS							

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA BASE	DATA: LINE [] NEW [X]								
	FRCS 976 RELAY, LATCHING										
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM											
HDW/FUI		в с	TTEM								
NASA [3 /1R IOA [2 /2] [P] [P] [P]	[] * [x]								
COMPARE [N /N] [N][N] [N]	[N]								
RECOMMENDATIONS:	(If different	from NASA)									
[2 /1R] [P] [P] [P]	[A] (ADD/DELETE)								
* CIL RETENTION I	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []										
LOSE JETS ON MAND 2. JETS REQUIRED											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-977	NASA DATA: BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 977 RELAY, LATCHING										
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C											
HDW/FU											
NASA [3 /1R IOA [3 /3] [P] [] [P] [P]]	[] *								
COMPARE [/N] [N][и] [и]	[]								
RECOMMENDATIONS:	(If different	from NASA)									
[3 /3] [] [] [] (A)	[] DD/DELETE)								
* CIL RETENTION	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []										
REMARKS: NASA FMEA CONSID EFFECT.	ALONE HAS NO										

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMI NASA FMI	ENT	II):	FRC	S-978	95 -	-1		Ŋ	BASEL		[x]	
SUBSYSTEMDAC ID				FRC: 978 RES:	S ISTOR,	5.1	LK 1/4	W						
LEAD AN	ALY	ST	3	D. 1	HARTMA	N								
ASSESSM	ENT	:												
	CR		[CAI	LITY	R	EDUN	IDANCY	SCR	EENS			CI	L EM	
		V/FU		A		В		C	:		11	LPI		
NASA IOA	[[3 3	/3 /3]] []	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMME	NDA'	TIC	ons:	(If dif	fere	ent fr	om N	(ASA)					
	[/]	[]	[]	C]	(AI	[\DC/	DEL	ETE
* CIL R	:			RATI	ONALE:	(Ii	f appl	icab	P	ADEQUA ADEQUA		[]	
NO DIFF	EKE.	NÇI	ES.											

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/88 FRCS-97 05-6KF-	3 79 -2095 - 1			SELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 979	OR, 5.1K					
LEAD ANALYST:	D. HAR	rman					
ASSESSMENT:							
	ALITY	REDUNDA	ANCY SCR	EENS		CIL	
HDW/	HT FUNC		В	С			
NASA [3 / IOA [3 /	3] 3]	[] []	[]	[]]	[] *]
COMPARE [/]	[]	[]	[]	[]
RECOMMENDATION	s: (If	differen	t from N	NASA)			
[/	1	[]	[]	[] (Al	[[D/DC] ELETE)
* CIL RETENTIO	N RATIONA	LE: (If	applical	ole) AD INAD	EQUATE EQUATE	[]
REMARKS: A SHORT ACROSS IOA RECOMMENDS FMEA.	A RLR TY REMOVAL	PE RESIS	STOR IS 1	NOT A C FAILURE	REDIBLE MODE F	FAI:	LURE. THIS
ISSUE RESOLVEI (SHORT FAILURI	AT MEETI MODE TO	ING WITH BE REMOV	SUBSYST	EM MANA	GER ON	1/20	/88

ASSESSMI ASSESSMI NASA FMI	ent	I	D:	FRO	9/88 S-980 6KF-20	93	-1			NASA DA BASELI N		x]	
SUBSYSTI MDAC ID: ITEM:				FRO 980 RES	_	5.	1K 1/4	W					
LEAD ANA	LY	ST	:	D.	HARTMA	N							
ASSESSME	ENT	:											
	CR:		ICAI LIGH	LITY	R	EDU	NDANCY	SCI	REENS	5	CI	_	
	1	HDV	/FU	INC	A		В			С	ITEM		
NASA IOA]	3	/3 /3]	[]	<u>[</u>]	[]	[]	*
COMPARE	[/]	[]	Į.]	[]	[]	
RECOMMEN	DAI	ric	ns:	(If dif	fere	ent fr	om N	IASA)				
	[/]	[]	[]	[]	[(ADD/)] DELE	ETE
* CIL RE REMARKS: NO DIFFE				RATI(ONALE:	(11	f appl	icab	-	ADEQUATI ADEQUATI]	
TO DIFFE.	ren	CE	.										

ASSESSM ASSESSM NASA FM	ENT ENT EA	D. I: #:	ATE:	FRC 05-	9/88 S-981 6KF-20	093 -	-1		1		DATA ELINE NEW] x]	
SUBSYST MDAC ID ITEM:	EM:			FRC 981	:s									
LEAD AN	ALY	ST	:	D.	HARTM	AN								
ASSESSM	ENT	:												
	CR		ICAI LIGI		I	REDUN	IDANC	SCR	EENS			CII		
	I				1	A	F	3	(C		ITI	7M	
NASA IOA	[3	/3 /3]]]	[]	[]		[] ,	k
COMPARE	[/]	[]	ι]	[]		[]	
RECOMME	NDA	ric	ONS:	: (If di	fere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(A)	[DD/I] DELET	ſE)
* CIL RI		VT:	ION	RATI	ONALE:	(If	appl	icab	1		ATE ATE	_]	
REMARKS: A SHORT IOA RECO	ACF													

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSMEN ASSESSMEN NASA FME	T T	D:	FRCS)/88 5-982 5KF-209	8 -	NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM MDAC ID:			FRCS 982 RESI	STOR,	1.8	K 1/4V	7					
LEAD ANA	LYST	r:	D. I	iartmai	1							
ASSESSME	NT:											
•		PICAL		RI	EDUN	DANCY	SCR	EENS		CI:		
	-	FLIGH DW/FU		A		В		C	!	1.1.	JII.	
NASA IOA	[:	3 /3 3 /3]	[]	[[]]	[[]	[] *]	
COMPARE	[/]	[]	[]	[]	[]	
RECOMMEN	DAT:	ions:	(:	If dif	fere	nt fro	om N	ASA)				
	[/]	[]	[]	[]	[(ADD/] DELET	E)
* CIL RE	TEN'	TION	RATI(ONALE:	(If	appl	icab	A	DEQUAT]	
NO DIFFE	REN	CES.										

ASSESSME ASSESSME NASA FME						8 -	1				DATA: LINE NEW]
SUBSYSTE MDAC ID: ITEM:				FRC 983 RES		1.8	K 1/4W	,					
LEAD ANA	LYS	T:	:	D.	HARTMAN	Ī							
ASSESSMI	ENT	;											
	CR			YTI	RI	EDUN	DANCY	SCI	REENS			CIL	
	I		LIGH W/FU		A		В		C	3			
NASA IOA	[3	/3 /3]	[]	[]	[]		[
COMPARE	[/]	[1	[]	C]		ĺ]
RECOMME	NDA	TI	ons:	:	(If dif	fere	ent fr	om i	NASA)				
			/		[]	(A	[DD/1] DELETE)
* CIL R	ETE	TN	NOI	RAT	ionale:	(I	f appl	ica			UATE UATE]
REMARKS A SHORT IOA REC FMEA.		RC	oss i	A RI REMO	R TYPE VAL OF	RES THE	ISTOR "SHOR	IS T"	NOT A FAILU	CRE RE M	DIBLE ODE F	FA ROM	ILURE. THIS
ISSUE I	RESC FAI	LLI LLI	/ED JRE	AT M	ETING TO BE	WIT REM	H SUBS	YSI	rem ma	NAGE	R ON	1/2	0/88

ASSESSM ASSESSM NASA FM	ENT	'I	D:	FRCS 05-6)/88 5-984 5KF-2(098 -	-1		:	NASA BASE	LINE] X]
SUBSYST MDAC ID ITEM:				FRCS 984 RESI		. 2.:	2K 1/2	W					•
LEAD AN	ALY	ST	:	D. H	ARTMA	N							
ASSESSMI	ENT	:											
	CR		CAI LIGH	ITY T	R	EDU	NDANCY	SCI	REENS			CI	
	NC	A		В		C	2	ITEM					
NASA IOA	[3 3	/3 /3]	[]	[]	[]		[] *]
COMPARE	[/]	[J	C]	ĺ]		[]
RECOMMEN	IDA'I	ric	NS:	(I	f dif	fere	ent fr	om N	ASA)				
	[/]	[]	[]	ſ]		[DD/I] DELETE)
* CIL RE	TEN	TI	ON :	RATIO	NALE:	(If	appl	icab					
REMARKS:	REN	ICE	s.							DEQUA DEQUA		[]

ASSESSMEN ASSESSMEN NASA FME	NT I		1/29/ FRCS- 05-61	-985	98 -	1		N	IASA I BASEI		[-	
SUBSYSTEMDAC ID:	M:		FRCS 985 RESIS	STOR,	2.2	K 1/2	W						
LEAD ANA	LYST	:	D. H	ARTM	AN .								
ASSESSME	NT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
FLIGHT HDW/FUNC A B C													
NASA IOA	[3	/3 /3] .	[]	[[]	[[]		[]	*
COMPARE	ĺ	/]	[]	[]	[1		[]	
RECOMMEN	DATI	ons:	(I	f di:	ffere	nt fi	com N	ASA)					
	[/	3	[]	[]	[]	(A	[DD/E] ELE	TE)
* CIL RE	TENT	NOI	RATIO	NALE	: (If	app	licab		ADEQU ADEQU		[]	
REMARKS: A SHORT IOA RECO FMEA.	ACRO	SS A	RLR REMOVA	TYPE L OF	RESI THE	STOR "SHO	IS N RT" F	OT A	CRED	IBLE DE F	FA] ROM	LUF THI	Œ. [S

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME SUBSYSTE MDAC ID: ITEM: LEAD ANA ASSESSME	D:	FR 05 FR 98 RE	CS- 6-6K CS 6 SIS	986 F-20	1.8		4 W		NASA DA' BASELII N		x]			
	CR]		ICAL			R	EDUN	DANC	SCR	EENS		_	IL		
FLIGHT HDW/FUNC								1	3		С	1	TEI	1	
NASA IOA	[[3 3	/3 /3]		[]	[[]	[]	[] *	t
COMPARE	[/]		[]	[]	[]	[]	
RECOMMEN	DAT	PIC	ons:		(If	dif	fere	nt fi	om N	ASA)					
	(/]		[]	[]	[]	[ADD	/DF] ELET	ľE)
* CIL RE	TEN	T	CON	RAT	IONZ	ALE:	(If	appl	icab	, i	ADEQUATE ADEQUATE]	

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	ENT	II):	FRC	S-987	097 -	1			ASA [BASE]		[
SUBSYSTE MDAC ID:				FRC 987 RES	,	, 1.8	K 1/4	W						
LEAD ANA	LYS	ST	:	D.	HARTM	AN								
ASSESSME	ENT:	:												
	CR		ICAI LIGH			REDUN	IDANCY	SCI	REENS			CIL		
	ŀ	-		INC		A	В		С					
NASA IOA	[[3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	ſ]	[]	[]		[]	
RECOMME	NDA'	ri	ONS:	: ((If di	ffere	ent fr	om 1	NASA)					
	[/]	[]	[]	ĵ.]	(Al	[DD/I		ETE)
* CIL R	ETEI	NT:	ION	RAT:	IONALE	: (Ii	appl	ical	A	DEQUA		[]	
REMARKS A SHORT IOA REC FMEA.	AC	RO: EN:	SS 1 DS 1	A RLI REMO	R TYPE VAL OF	RESI	ISTOR "SHOR	IS I	NOT A FAILUR	CRED	IBLE DE F	FA] ROM	[LU] TH:	RE. IS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-988	L	NASA DATA BASELINE NEW	[]
	FRCS 988 RESISTOR, 1.2F	C 2W		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
FLIGHT				CIL ITEM
HDW/FUN	IC A	B	С	
NASA [3 /1R IOA [3 /2R] [P]] [P]	[F] [F]	[P] [P]	[X] * [X]
COMPARE [/N] []	[]	[]	[]
RECOMMENDATIONS:	(If differen	t from NAS	A)	
[/] []	[]		[] DD/DELETE;
* CIL RETENTION F REMARKS: IOA AGREES WITH N		applicable	ADEQUATE	[]

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS)/88 5-989 5KF-209	94 -	2				LINE NEW	[
SUBSYSTE MDAC ID:			FRCS 989 RESI	S STOR,	1.2	K 2W							
LEAD ANA	LYST	:	D. H	IARTMAI	1								
ASSESSME	NT:												
		ICAL LIGH	ITY	R	EDUN	DANCY	SCR	EENS			CIL		
	_	W/FU		A		В	;	C	2				
NASA IOA	[3 [3	/3 /3]	[]	[]	[]		[] ;	*
COMPARE	[/]	C]	[]	[3		[]	
RECOMMEN	DATI	ONS:	(:	If dif	fere	nt fr	om N	IASA)					
	[/]	[]	[]	[)	(A	[DD/I) DELE	TE)
* CIL RE	TENI	NOI	RATI	ONALE:	(If	appl	icab	, i		JATE JATE	-]	
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SUBSYST MDAC ID ITEM:					STOR,	5.1	LK 1/4	w							
LEAD AN	ALY	ST:		D. H	ARTMA	N									
ASSESSM	ENT	:													
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COMPARE	[/	,]	Ε]	[]	[]		[]		
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ASSESSME ASSESSME NASA FME	NT I	D:	1/29/ FRCS- 05-6F	-991	96 -	1		ľ	IASA D BASEL		[
SUBSYSTE MDAC ID:			FRCS 991 RESIS	STOR,	5.1	K 1/4	IW						
LEAD ANA	LYST	:	D. H2	ARTMA	AN .								
ASSESSME	ENT:												
	CRIT	ICAL LIGH		F	REDUN	DANC	SCR	EENS			CIL		
			NC	7	A	I	3	(2				
NASA IOA	[3 [3	/3 /3]	[[]	[[]	[]]		[] *	ŧ
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	NDATI	ons:	(I	f di	ffere	nt f	rom N	IASA)					
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* CIL RI	ETENT	ION	RATIO	NALE	: (If	app	licak		ADEQU <i>A</i> ADEQU <i>A</i>]	
REMARKS A SHORT IOA RECO	ACRO	SS A	A RLR REMOVA	TYPE L OF	RESI THE	STOR "SHO	IS N RT" I	OT A	CREDI RE MOI	BLE DE F	FA] ROM	[LURI THIS	E. S

ASSESSME ASSESSME NASA FME	NT	I	D:	1/29/ FRCS- 05-61	-992	97 -	1			NASA DATA BASELINI NEV		x]
SUBSYSTE MDAC ID:				FRCS 992 RESIS	STOR,	2.2	K 1/2	W				
LEAD ANA	LY	ST	:	D. H2	RTMA	N						
ASSESSME	NT	:										
	CR:				R	EDUN	DANCY	SCRI	EENS	5	CI	
	CRITICALITY REDUNDANCY SCREE FLIGHT HDW/FUNC A B									С	IT	EM
NASA IOA	[3 3	/3 /3]	[]	[]	[]	[] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	DA:	ri(ons:	(If	dif	fere	nt fr	om NA	ASA)			
	[/	3	[]	[]	[]	[\DD/I] DELETE)
* CIL RE	TEI	NT:	ION	RATION	ALE:	(If	appl	icabl	·	ADEQUATE IADEQUATE	[]

ASSESSME ASSESSME NASA FME			_		_*	97 -	-1		I	IASA BASE	DATA LINE NEW	[) K]	
SUBSYSTE MDAC ID:				FRC:	5		2K 1/21							
LEAD ANA	LYS	ST:	:	D. I	IARTMA	N								
ASSESSME	NT:	:												
1	CR1		ICAI LIGH		R	EDUN	IDANCY	SCF	REENS			CII	_	
	H			INC	A		В		C	:		ITI	7M	
NASA IOA	[3 3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAI	PI.	ONS:	()	f dif	fere	ent fro	om N	IASA)					
	C		/]	[]	[]	[]		[DD/I		ETE)
* CIL RE	TEN	T	CON	RATIO	NALE:	(If	appl:	icab	A	DEQU.		[]	
REMARKS: A SHORT I IOA RECOI														

ASSESSME ASSESSME NASA FME	NT	I):	FRC	s-994	095 -	-1				DATA: LINE NEW	[x]	
SUBSYSTE MDAC ID: ITEM:	M:			FRC 994 RES		., 5.1	LK 1/4	ŀW						
LEAD ANA	LYS	ST:	1	D.	HARTM	AN								
ASSESSME	NT:	:												
	CR)		CAI LIGH	ITY		REDUI	NDANC!	SCR	EENS			CI TT	L EM	
	I			INC		A	1	3	C	:				
NASA IOA	[3	/3 /3]]]]	[B C]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DA:	ric	ONS:	(If di	ffer	ent f	rom N	(ASA)					
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SUBSYSTE MDAC ID:				FRCS 995 RES	S ISTOR,	5.1	K 1/4	W				
LEAD ANA	ALYS	T:	:	D. 1	HARTMA	N						
ASSESSMI	ENT:	:										
	CRI		[CAL	ITY	R	EDUN	IDANCY	SCF	REENS		CIL	
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NASA IOA	[3	/3 /3]]]	[]	[]	[] *
COMPARE	[/	Ĺ	[]	[]	(1	[]
RECOMME	NDA'	rio	ons:	(If dif	fere	ent fr	om 1	IASA)			
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* CIL R	ETEI	NT:	ION	RATI	ONALE:	(II	f app]	Lical	P	DEQUATE]
REMARKS A SHORT IOA REC FMEA.	ACI	RO: EN:	SS A	REMOV	TYPE AL OF	RES:	ISTOR "SHOI	IS 1	NOT A FAILUE	CREDIBLE RE MODE	E FA] FROM	LURE. THIS

ASSESSMI ASSESSMI NASA FMI	ENT	II		FRC	9/88 S-996 6KF-20	93 -	-1]	NASA BASE	LINE) x]	
SUBSYSTE MDAC ID:				FRC 996 RES		5.	1K 1/4	W						
LEAD ANA	ALYS	ST:		D.	HARTMA	N								
ASSESSME	ENT:	:												
	CRI				R	EDUI	NDANCY	SCR	REENS			CI		
	CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C												D11	
NASA IOA]	3 3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	C]	[]	[]		[]	
RECOMMEN	I A T	rio	NS:	(If dif	fere	ent fr	om N	ASA)					
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* CIL REREMARKS:				RATI	ONALE:	(Ii	f appl	icab	1	ADEQU ADEQU		[]	

ASSESSMI ASSESSMI NASA FMI			_			93 -	1			ASA I BASEI		[
SUBSYSTI MDAC ID: ITEM:	EM:			FRC 997	s									
LEAD AN	ALY	ST	:	D.	HARTMA	N								
ASSESSM	ENT	:												
	CR				R	EDUN	IDANCY	SCI	REENS			CII		
]		LIG W/F		A		В		С					
NASA IOA	[3	/3 /3]]]	[]	[]		[] ;	*
COMPARE	[/]	C)	[]	[3		[]	
RECOMME	NDA	ΤI	ONS	S: (If dif	fere	ent fr	om 1	NASA)					
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REMARKS A SHORT IOA REC FMEA.	AC	RO	SS IDS	A RLI REMOV	R TYPE /AL OF	RESI THE	ISTOR "SHOR	IS I	NOT A	CRED	IBLE	FA]	LUR	E. S
ISSUE R	ESO	LV	ÆD.	AT MI	EETING	WITI	H SUBS	YST	em man	AGER	ON	1/20)/88	

(SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT :	ID:	FRCS	-998	98 -	·1		1	NASA DATA BASELINI NEV		x]
SUBSYSTE MDAC ID:			FRCS 998 RESI	STOR,	2.2	K 1/:	2 W				
LEAD ANA	LYS	r:	D. H	ARTMA	N						
ASSESSME	NT:										
		rical.		R	EDUN	DANC	SCR	EENS		CI	
		FLIGH' DW/FU		A		1	3	(2	ITI	EM
NASA IOA	[3	3 /3 3 /3]	[]	[]	[]	[[] *]
COMPARE	[/]	ί]	[]	[]	[]
RECOMMEN	DAT]	cons:	(I	f dif	fere	nt fi	com N	ASA)			
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* CIL RE	TENT	TION 1	RATIO	NALE:	(If	app]	licab	7	ADEQUATE ADEQUATE	_]

ASSESSME NASA FME				•	:9/88 :S-999 :6KF-2(098 -	-1			NASA BASE	DATA LINE NEW	[) X 1	
SUBSYSTE MDAC ID:	: M			FRC 999	s								•	
LEAD ANA	LY	ST	:	D.	HARTMA	N.								
ASSESSME	NT	:												
	CR:		ICAI LIGH	LITY	F	REDUN	IDANCY	SCI	REENS			CI:		
	1			INC	Ā	\	В		(2			LIPI	
NASA IOA]	3	/3 /3]	[]	[[]	[]		[]	*
COMPARE	[/]	ĺ]	[]	[]		[]	
RECOMMEN	DAT	ΓIO	ons:	(If dif	fere	nt fr	om N	IASA)					
	[/]	[]	C .]	[)	(Al	[DD/I] DELE	ETE)
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REMARKS:									INA	DEQU	ATE		j	
A SHORT IOA RECO	ACI MMI	ROS ENI	SS A	RLR EMOV	TYPE AL OF	RESI THE	STOR :	IS N T" F	OT A	CRED RE MO	IBLE DE FI	FAI ROM	LUF THI	₹E. IS

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		94 -1		SA DATA: SASELINE NEW	•]
	FRCS 1000 RESISTOR,	1.2K 2W				
LEAD ANALYST:	D. HARTMAI	Ŋ				
ASSESSMENT:						
CRITICAL		EDUNDANCY	SCREENS		CIL	ſ
FLIGH HDW/FU		В	С			_
NASA [3 /1R IOA [3 /2R] [P] [F] [F] [P] [P]	[X] *
COMPARE [/N] [] [] []	[]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
[/] [] [] [) (AI	[DD/DI] ELETE
* CIL RETENTION	RATIONALE:	(If appl	A)	DEQUATE DEQUATE	[]
REMARKS: IOA AGREES WITH	NASA FMEA.					

ASSESSME ASSESSME NASA FME	NT	II):	FRC	9/88 S-1001 6KF-20	2				DATA LINE NEW	[]		
SUBSYSTE MDAC ID: ITEM:				FRC 100 RES		1.2	K 2W							
LEAD ANA	LYS	ST	}	D.	HARTMA	N								
ASSESSME	NT:	:												
	CR1		CAI LIGH	LITY	R	EDUN	IDANCY	SCR	EENS			CII		
	ŀ			INC	A		E	3	C	:			,	
NASA IOA	[3	/3 /3]	[]	[[]	[]		[[]	*
COMPARE	[/]	[]	[)	[]		[]	
RECOMMEN	DA!	ΓI¢	ONS:	: ((If dif	fere	ent fi	com N	(ASA)					
	[/]	[)	[]	[]	(A	[.DD/I		ETE)
* CIL RE				RAT	[ONALE:	(Ii	f appl	licab	7		UATE UATE]	
NO DIFFE	RE.	NC.	ES.											

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRC	9/88 S-1002 6KF-20		-1		:	NASA DA BASELI N		x]
SUBSYSTI MDAC ID: ITEM:			FRC 100 RES		5.1	LK 1/4	W				
LEAD ANA	ALYS	ST:	D. 1	HARTMA	N						
ASSESSME	ENT	:									
	CRI	TICAL FLIGH		R	EDUN	IDANCY	SCI	REENS		C)	
	F	IDW/FU		A		E	1	•	С	17	rem
NASA IOA]	3 /3 3 /3]]]	[]	[]	[] *
COMPARE	[/]	[]	[]	(]	[]
RECOMMEN	ľAdi	CIONS:	(:	[f dif:	fere	ent fr	om 1	NASA)			
	[/]	[]	[3	[]	[(ADD/) 'DELETE
* CIL RE	ETEN	TION :	RATIO	ONALE:	(If	appl	icak	1	ADEQUAT ADEQUAT]
DEMADEC.											J

ASSESSME ASSESSME NASA FME	NT	ID):		1003		1		ŀ	IASA BASE		[(]	
SUBSYSTE MDAC ID:	M:			FRCS 1003 RESIS	TOR,	5.1	K 1/41	Ň						
LEAD ANA	LYS	T:		D. HA	RTMA	M								
ASSESSME	NT:													
			CAL	ITY	F	REDUN	DANCY	SCR	REENS			CII		
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NASA IOA			/3 /3]	[[]	[]]]		[]	*
COMPARE	[/]	[]	[]	[3		E]	
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REMARKS:									INA	DEQU	ATE	[]	
A SHORT I														

1/29/88 FRCS-1004 05-6KF-20	98 -1			LINE	[
FRCS 1004 RESISTOR,	1.8K 1/4	w				
D. HARTMA	N					
	EDUNDANCY	SCREE	ns		CIL	
	В	l .	С		115	P4
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RATIONALE:	(If appl	icable	ADEQU	ATE ATE	[]
	FRCS-1004 05-6KF-20 FRCS 1004 RESISTOR, D. HARTMA LITY R IT INC A] [] [] [] [FRCS-1004 05-6KF-2098 -1 FRCS 1004 RESISTOR, 1.8K 1/4 D. HARTMAN LITY REDUNDANCY IT ONC A B] [] []] [FRCS-1004 05-6KF-2098 -1 FRCS 1004 RESISTOR, 1.8K 1/4W D. HARTMAN LITY REDUNDANCY SCREE IT INC A B [] [] []] [] [] (If different from NAS] [] []	FRCS-1004 05-6KF-2098 -1 FRCS 1004 RESISTOR, 1.8K 1/4W D. HARTMAN LITY REDUNDANCY SCREENS AT UNC A B C [FRCS-1004 05-6KF-2098 -1 FRCS 1004 RESISTOR, 1.8K 1/4W D. HARTMAN LITY REDUNDANCY SCREENS IT UNC A B C [FRCS-1004 05-6KF-2098 -1 FRCS 1004 RESISTOR, 1.8K 1/4W D. HARTMAN LITY REDUNDANCY SCREENS TUNC A B C [] [] [] [] [] [] [] [] [] [

ASSESSMEN ASSESSMEN NASA FME	NT I	D:	FRCS	-1005	; 198 –	1			ASA D BASEL		[
SUBSYSTEMDAC ID:	M:		FRCS 1005 RESI	STOR,	1.8	K 1/4	W						
LEAD ANA	LYST	':	D. H	ARTMA	M								
ASSESSME	NT:												
		ICAL		F	REDUN	DANCY	sc	REENS			CIL		
	_		NC	A	1	В		С					
NASA IOA	[3 [3	/3]	[]	[]]]		[]	*
COMPARE	[/	1	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(I	f di	fere	nt fr	om	NASA)					
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* CIL RE	TENI	NOI	RATIO	NALE:	: (If	appl	ica	A	DEQU <i>I</i> DEQU <i>I</i>	ATE	[]	
REMARKS: A SHORT IOA RECO FMEA.	ACRO MMEN	OSS A	A RLR REMOVA	TYPE L OF	RESI THE	STOR "SHOR	IS T"	NOT A	CREDI	BLE	FAI	LUI	RE. IS

ASSESSME ASSESSME NASA FME	ENT I	D:	FRCS		-1		N	BASELII N		x]		
SUBSYSTE MDAC ID:			FRCS 1006 RESI		1.8	K 1/41	W					
LEAD ANA	LYSI	:	D. I	HARTMA	N							
ASSESSME	ENT:											
			ITY	R	EDUN	IDANCY	SCR	EENS		CII		
	FLIGHT HDW/FUNC A B C										5M	
NASA IOA	[3	3 /3]	[]	[]	[[]	[]	*
COMPARE	[/]	[]	[]	[]	[]	
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* CIL RE			RATIO	ONALE:	(If	appl:	icab	A	DEQUATI]	

ASSESSMEN ASSESSMEN NASA FME	NT I	D:		-1007	, 197 –	1				DATA: LINE NEW	[
SUBSYSTEM MDAC ID:			FRCS 1007 RESI		1.8	K 1/4	W						
LEAD ANA	LYSI	?:	D. H	ARTMA	M								
ASSESSME	NT:												
		ICAL		F	REDUN	DANCY	SCI	REENS			CIL		
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NASA IOA	[3	/3]	[[]]	[]	[]		[]	*
COMPARE	[/	1	[]	C]	[]		[]	
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REMARKS: A SHORT IOA RECO FMEA.	ACRO MMEN	DSS A	A RLR REMOVA	TYPE AL OF	RESI THE	STOR "SHOR	IS :	NOT A	CRED	IBLE	FAI	LUI	RE. [S

ASSESSMEN ASSESSMEN NASA FME	NT II	D:	1/29/6 FRCS-1 05-6K	1008	97 -1				ASA DA' BASELI N	NE	[x]	
SUBSYSTEM MDAC ID: ITEM:	M:		FRCS 1008 RESIS	ror,	2.2K	1/21	W						
LEAD ANA	LYST	:	D. HAI	RTMAI	N								
ASSESSME	NT:												
(CRIT:	ICAL: LIGH:		RI	EDUND	ANCY	SCREI	ens			CI		
	HDV	/FUI	NC	A		В		С					
NASA IOA	[3 [3	/3 /3]	[]	[]	[[]		[[]	*
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* CIL RE	rent]	ION 1	RATION	ALE:	(If	appl:	icable	A	DEQUATI DEQUATI		[]	
REMARKS:								_11161	Kout	_	ι	j	

ASSESSME ASSESSME NASA FME	NT NT A #	DA ID	TE:	1/2 FRC 05-	9/88 S-10 6KF-	09 2091	7 - 1					DATA: ELINE NEW]	
SUBSYSTE MDAC ID:	M:			FRC 100	S 9		2.2K		1						
LEAD ANA	LYS	T:		D.	HART	MAN									
ASSESSMI	ENT:	}													
	CRI					RE	DUNDA	NCY	SC	REENS	5		CIL	[
FLIGHT HDW/FUNC A B C															
	NASA [3 /3] [] [] [] [] [] []									[]	*			
COMPARE	ι		/]	I	[1	ĺ]	[]		[]	
RECOMME	NDA'	TI	ONS:	:	(If	diff	eren	t fr	om	NASA	.)				
	(/]		[3	[]	[]	(A)	[DD/D1] ELE	ETE)
* CIL R	ETE	NT	ION	RAT	IONA	LE:	(If	appl	ica		UDI	QUATE QUATE]	
REMARKS A SHORT IOA REC FMEA.		RC IEN	SS IDS	A RL REMO	R TY VAL	PE I	RESIS THE "	TOR SHOR	IS T"	NOT FAII	A CE LURE	REDIBLE MODE F	FAI ROM	LUI TH	RE. IS
ISSUE I (SHORT	RESC FA]	LL(/ED JRE	AT M	EETI TO	NG BE	WITH REMOV	SUBS (ED) .	SYS!	TEM 1	(ANA)	SER ON	1/20	/8	В

ASSESSME ASSESSME NASA FME	INT :	ID:	FDCC	-1014	0 095	-1			NASA DA BASELI		
SUBSYSTE MDAC ID:			FRCS			1K 1/				•	,
LEAD ANA	LYSI	?:	D. H	ARTM	\N						
ASSESSME	NT:										
		'ICAI 'LIGH	LITY	F	REDUI	NDANC	SCI	REENS		CI	
		W/FU	_	A		I	3	C	C	IT:	EM
NASA IOA	[3	/3 /3]	[]	[]	[[]	[] *
COMPARE	[/]	[]	[]	[3	[]
RECOMMEN	DATI	ons:	(I	f dif	fere	ent fr	om N	(ASA)			
	[/]	[]	ſ]	ſ		[(ADD/I) DELETE)
* CIL RET			RATION	IALE:	(If	appl	icab	A	DEQUATI]

ASSESSM ASSESSM NASA FM	ENT	I	D:	FRO	S-1	011		-1			ì	NASA BASE	LINE]	
SUBSYST MDAC ID ITEM:				FRO 101 RES		OR,	5.1	LK 1	/4W							
LEAD AN	ALY	ST	:	D.	HAR'	IMAI	N									
ASSESSM	ENT	:														
	CR		ICAL LIGH			RI	EDUN	IDAN	CY S	CREE	NS			CIL		
	1		W/FU			A			В		C	2		III.	r1	
NASA IOA	[3	/3 /3]		[]]]		[]		[[]	*
COMPARE	[/]		[]	[]		[]		[]	
RECOMME	NDA.	rio	ons:	(If o	difi	fere	ent	from	n NAS	A)					
	[/]		[)	[]		[]	(AI	[DD/D:		ETE)
* CIL RI		NT:	ION :	RATI	ONA:	LE:	(If	ap	plic	able	P	DEQUA		[]	
REMARKS: A SHORT IOA RECO	ACI															

ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	/88 -1012 KF-209	93 -1	-		ì	IASA I BASE]		[
SUBSYSTE MDAC ID:			FRCS 1012 RESI		5.11	(1/4	w						
LEAD ANA	LYS	T:	D. H	ARTMAI	N								
ASSESSME	NT:												
		TICAL		R	EDUNI	DANCY	SCR	EENS			CII		
		FLIGH DW/FU		A		F	3	(C		111	,F1	
NASA IOA	[3 /3 3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDAT	ions:	(1	f dif	fere	nt fi	com N	ASA)					
	[/]	[]	[]	[]	(A	[DD/I		TE)
* CIL RI		TION	RATIC	NALE:	(If	app:	licab		ADEQU.		[]	

ASSESSME ASSESSME NASA FME	NT :	ID:	FRCS		93 -	1		N	IASA I BASEI		[]	
SUBSYSTE MDAC ID: ITEM:			FRCS 1013 RESI		5.1	K 1/4	W						
LEAD ANA	LYS'	T:	D. I	HARTMA	N								
ASSESSME	ENT:												
		TICAI FLIGH		F	REDUN	DANCY	SCR	EENS			CIL		
			INC	7	\	E	3	(
NASA IOA	[3 /3 3 /3]]]	[[]] []		[[] ;	k
COMPARE	[/]	[3	[)	Ţ]		[]	
RECOMMEN	DAT	IONS	: (If di	fere	nt fi	com N	IASA)					
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* CIL RI		TION	RATI	ONALE:	: (If	app]	licab	Ž	ADEQU ADEQU		_]	
REMARKS: A SHORT IOA RECO	ACR	OSS I	A RLR REMOV	TYPE AL OF	RESI THE	STOR "SHO	IS N RT" F	OT A	CRED RE MO	IBLE DE F	FAI ROM	LUR THI	E. S

ASSESSME ASSESSME NASA FME	NT	ID:		1014		·1]	NASA DATA BASELINI NEV		x]
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1014 RESIS	TOR,	2.2	eK 1/2	2 W				
LEAD ANA	LYS	T:	D. HA	RTMA	N						
ASSESSME	NT:										
		TICAL		R	EDUN	DANC	Y SCR	EENS		CII	-
		FLIGH DW/FU		A		1	3	(2	ITI	E M
NASA IOA	[:	3 /3 3 /3]	[]	[]	[]	[] *
COMPARE	[/)	[]	[]	C]	(1
RECOMMEN	DAT:	IONS:	(If	dif	fere	nt fi	com N	ASA)			
	[/	3	[]	[]	[[DD/I] DELETE)
* CIL RES	ren:	rion 1	RATION	ALE:	(If	appl	licab	P	DEQUATE	[]

ASSESSME ASSESSME NASA FME	NT NT A	DA II	ATE:	1/29 FRC: 05-	9/88 S-1015 6KF-20	98 -	1				DATA: LINE NEW	_]
SUBSYSTE MDAC ID:				FRC 101 RES		2.2	K 1/2	ñ					
LEAD ANA	LYS	ST:	:	D. 3	HARTMA	N							
ASSESSME	ENT	:											
	CR				R	EDUN	DANCY	SC	REENS			CIL	="
	1		LIGH W/FU	INC	A		В		С				
NASA IOA	[3	/3 /3]	[[.]	[]	[]		[] *
COMPARE	[/]	ĺ]	[]	[)		[]
RECOMMEN	NDA'	TI	ONS	: (If dif	fere	ent fr	om	NASA)				
	[/]	[]	[]	[]	(Al] DELETE)
* CIL R	ETE	NT	ION	RATI	ONALE	: (Ii	f appl	ica	P		JATE JATE	[]
REMARKS A SHORT IOA REC FMEA.	7.0	RO EN	SS I	A RLF REMOV	R TYPE VAL OF	RES:	ISTOR "SHOR	IS T"	NOT A FAILUF	CRE	DIBLE ODE F	FA: ROM	LURE. THIS
ISSUE R	ESO	LV	ED	AT ME	EETING	WIT	H SUBS	rsy	TEM MAI	IAGE:	R ON	1/2	0/88

(SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT I NT I A #:	DATE:	1/29/ FRCS- 05-6K	88 101 (F-2)	6 094 -	-1			ASA DATA BASELINE NEW]
SUBSYSTE MDAC ID:			FRCS 1016 RESIS	TOR	, 1.2	K 2W					
LEAD ANA	LYSI	?:	D. HA	RTM/	AN						
ASSESSME	NT:										
	F	CICALI LIGHT	r		REDUN	DANCY E		EENS C		CIL	
				_	_						
NASA IOA	[3	/1R /2R]	[I	?]]]]	[P [P]	X]] *
COMPARE	[/N]	[]	[]	[]	[]
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om N	ASA)			
	[/]	[]	[]	[] (A	[DD/D] ELETE)
* CIL RE	TENT	ION F	RATION	ALE:	(If	appl	icab	AL	EQUATE	[]

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME							94 - 2	2			NASA BASE	DATA LINE NEW	[x]	
SUBSYSTE MDAC ID: ITEM:				FF 10	RCS)17		1.21									
LEAD ANA	LY	ST	:	D.	HAI	RTMA	N									
ASSESSME	NT	:														
	CR:			LITY	?	R	EDUNI	DANCY	SCRE	ENS			C]		_	
	FLIGHT HDW/FUNG					A		В			С		1.1	rem	1	
NASA IOA	[3	/3 /3]		[]	[]	[]]]	*
COMPARE	[/]		[]	[3	[]		(]	
RECOMMEN	DA'	ΓI	ONS	:	(If	dif	fere	nt fr	om NA	SA)						
	[/]		[]	[]	[]	(AI	-	/DE	-	TE)
* CIL RE	TEI	NT.	ION	RAT	'IONZ	ALE:	(If	appl	icabl		ADEQU. ADEQU.		[]	
REMARKS:															,	

ASSESSME ASSESSME NASA FME	NT :	ID:	FRCS	/88 -1018 KF-209		1			BASEI		[]
SUBSYSTE MDAC ID: ITEM:			FRCS 1018 RESI		1.8	K 1/4V	j					
LEAD ANA	LYS'	T:	D. H	IARTMAI	1							
ASSESSME	NT:											
		TICAL		RI	EDUN	DANCY	SCR	EENS			CII	
		FLIGH DW/FU		A		В		C	:		IIE	1 1. 1
NASA IOA	[3 /3 3 /3]	[]	[]	[]		[] *
COMPARE	[/]	[]	[]	[]		[]
RECOMMEN	DAT	ions:	(1	f dif	fere	ent fro	om N	ASA)				
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* CIL RE		TION	RATIO	NALE:	(If	appl	icab	7	ADEQUA ADEQUA		[]
REMARKS:		CES.										

ASSESSMEN ASSESSMEN NASA FME	I TN	D:	FRCS	-1019	98 -	1			ASA DAT. BASELIN NE		
SUBSYSTEMDAC ID:			FRCS 1019 RESI		1.8	K 1/4V	V				
LEAD ANA	LYSI	r:	D. H	ARTMA	N						
ASSESSME	NT:										
(rical Fligh	ITY	F	EDUN	DANCY	sc	REENS		CIL	
	_		NC	A	L	В		С			
NASA IOA	[3	3 /3 3 /3]	[]	[[]	[]	[[] *
COMPARE	ſ	/	1	[]	[]	ι]	[1
RECOMMEN	DAT:	ions:	(1	f di	fere	nt fr	om	NASA)			
	[/]	3]	[]	[] ([ADD/D] ELETE)
* CIL RE	TEN'	TION	RATIO	NALE:	(If	appl	ica	A	DEQUATE	: [j
REMARKS: A SHORT IOA RECO FMEA.	ACR(OSS # NDS F	A RLR REMOV <i>I</i>	TYPE AL OF	RESI THE	STOR "SHOR	IS T"	NOT A	DEQUATE CREDIBI E MODE	E FAI	LURE.

ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	-1020		1		1	NASA BASE		[x]	
SUBSYSTE MDAC ID:	M:		FRCS 1020 RESI		1.8	K 1/4	W						
LEAD ANA	LYS	T:	D. H	ARTMA	N								
ASSESSME	NT:												
,	1	TICAL FLIGH	T	R:		DANCY B	SCR	EENS			CI IT		
		DW/FU				_			-				
NASA IOA	[:	3 /3 3 /3]	[]	((]	[]		[] *	1
COMPARE	[/]	ĺ]	[]	[]		[3	
RECOMMEN	DAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)					
	[/]	ſ]	[]	[]	(A	[DD/:] DELET	'E)
* CIL RE	TEN'	rion 1	RATIO	NALE:	(If	appl	icab	P	DEQU.		[]	

ASSESSME ASSESSME NASA FME	NT I		FRCS	/88 -1021 KF-20	97 -:	1			ASA I BASEI]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1021 RESI	STOR,	1.8	K 1/4	W						
LEAD ANA	LYST	:	D. H	ARTMA	N								
ASSESSME	NT:												
		ICAL		P	EDUN	DANCY	SCR	REENS			CIL		
		LIGH W/FU	IT INC	A		12	3	c	!				
NASA IOA	[3	3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDAT]	CONS:	: (1	f di	ffere	nt fr	om 1	NASA)					
	ι	/	1	[]	ĵ]	[]	(A	[DD/I		ETE)
* CIL RI	ETEN!	rion	RATIO	NALE	: (If	app	Lical	E	ADEQU ADEQU]	
REMARKS A SHORT IOA RECO FMEA.	A CD	oss i	A RLR REMOV <i>I</i>	TYPE AL OF	RES] THE	(STOR SHO	IS 1 RT" :	NOT A FAILUI	CRED) IBLE) DE F	FA: ROM	LLUI TH	RE. IS

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	FRCS-	88 1022 F-20	! 197 - :	1			NASA DA BASELI N) X)	
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1022 RESIS									
LEAD ANALYS	T:	D. HA	RTMA	N							
ASSESSMENT:											
	TICAL: FLIGHT	ITY T	R	EDUNI	DANCY	SCRE	ENS		CI	L EM	
H	DW/FUI	NC	A		В		(С	11	EM	
NASA [:	3 /3 3 /3]	[]	[]	[]	[]	*
COMPARE [/]	[]	[]	[]	ſ]	
RECOMMENDAT	IONS:	(If	dif	ferer	nt fr	om NA	SA)				
[/]	[]	[]	[]	[(ADD/] DELE	ETE :
* CIL RETENT REMARKS: NO DIFFERENCE		RATION	ALE:	(If	app1:	icabl	7	ADEQUAT:]	

ASSESSMI ASSESSMI NASA FMI	ENT	II	D:	FRC	S-102	23 2097 -	-1		N	BASE		[]	
SUBSYSTEMDAC ID				FRC 102 RES	3	2.2	2K 1/:	2 W						
LEAD AN	ALY	ST	:	D. 3	HARTN	IAN								
ASSESSM	ENT	:												
	CR		ICAL LIGH			REDUI	NDANC	Y SCF	REENS			CII		
	1			NC		A	:	В	C	2			12.2	
NASA IOA	[3	/3 /3]]]	[]	[]		[]	*
COMPARE	ι		/]	C]	[]	[]		[]	
RECOMME	NDA	TI	ons:	(If d	iffer	ent f	rom N	NASA)					
	[/]	[]	[]	[3	(A)	[DD/I) ELi	ETE)
* CIL R	ETE	NT	ION	RATI	ONALI	E: (I	f app	licak	7	ADEQU ADEQU		•]	
REMARKS A SHORT IOA REC FMEA.	AC	RO EN	SS A DS R	RLR EMOV	TYP	E RES	ISTOR "SHO	IS 1 RT" I	OT A	CRED RE MO	IBLE DE F	FA] ROM	LUI TH:	RE. IS

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT I	ID:	FRCS	/88 -1024 KF-20		1			NASA DAT BASELIN NE	E [x]	
SUBSYSTE MDAC ID:			FRCS 1024 RESI	STOR,	5.1	K 1/4	W					
LEAD ANA	LYST	r:	D. H	ARTMA	N							
ASSESSME	NT:											
		PICAL		R	EDUN	DANCY	SCRE	ENS		CI		
		FLIGH OW/FU		A		В			С	TT	EM	
NASA IOA	[3	3 /3]	[]	[]	[]	[]	*
COMPARE	[/]	[]	[]	[1	[)	
RECOMMEN	DATI	cons:	(I:	f dif	fere	nt fr	om NA	SA)				
	[/]	[]	[]	[[ADD/] DELF	ETE
* CIL RE	TENT	rion	RATIO	NALE:	(If	appl	icabl		ADEQUATE ADEQUATE	-]	

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	I TA	D:	FRCS	/88 -1025 KF-20		1				DATA: LINE NEW	[_	
SUBSYSTE MDAC ID:			FRCS 1025 RESI	STOR,	5.1	K 1/4	W						
LEAD ANA	ALYS:	r:	D. H	ARTMA	N								
ASSESSMI	ENT:												
		TICAI FLIGH	LITY	F	REDUN	DANCY	SCI	REENS			CIL		
	-	DW/FU		2	1	E	3	C					
NASA IOA	[3 /3 3 /3]	[]	[[]	[[]		[] ;	k
COMPARE	[/]	[]	[]	[]		ſ)	
RECOMME	NDAT	IONS	: (1	f di	ffere	nt fi	com 1	NASA)					
	[/	3	[1	[3	[]	(A	[DD/I	ELE'	TE)
* CIL R	ETEN	TION	RATIO	NALE	: (If	app:	lica	F	ADEQU ADEQU	JATE JATE	[]	
REMARKS A SHORT IOA REC FMEA.	3 OT	ROSS INDS	A RLR REMOVA	TYPE AL OF	RESI THE	(STOR SHO	IS RT"	NOT A FAILUI	CREI	DIBLE DDE F	FA:	LUR THI	E. S

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88

REPORT DATE 2/26/88 C-989

(SHORT FAILURE MODE TO BE REMOVED).

ASSESSMI NASA FMI	ENT	ID:	FRC	9/88 S-1026 6KF-20		-1			NASA DA BASELI N	NE [x]	
SUBSYSTIMDAC ID:			FRC: 102 RES:		2.2	2K 1/2	2 W					
LEAD AND	ALYS	T:	D. 1	HARTMA	N							
ASSESSMI	ENT:											
		TICAI FLIGH		R	EDUN	NDANCY	SCR	REENS	3	CI:		
	H	DW/FU	NC	A		F	3		С		11 1	
NASA IOA	[:	3 /3 3 /3]	[]]]]]	[]	*
COMPARE	[/]	[]	[)	[]	[)	
RECOMMEN	DAT:	ions:	(1	f dif	fere	nt fr	om N	ASA)				
	[/]	C]	[]	[]	[(ADD/I] DELE	TE)
* CIL RE REMARKS: NO DIFFE			RATIC	NALE:	(If	appl	icab		ADEQUATI ADEQUATI]	
	-/111/	، باند										

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ASSESSMENT ASSESSMENT NASA FMEA	ID:	FRCS-1	.027	98 -1				ASA DATA BASELINI NEV		
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1027 RESIST	or,	2.2K	1/2	N				
LEAD ANALYS	ST:	D. HAR	AMT	1						
ASSESSMENT	:									
CR	ITICAL:		RE	EDUNDA	ANCY	SCREE	ens		CIL ITE	
1	HDW/FUI		A		В		C	:		••
NASA [IOA [3 /3 3 /3]	[]]	[]	[]	[[] *]
COMPARE [/]	[]	C]	[]	[]
RECOMMENDA!	TIONS:	(If	diff	ferent	fre	om NAS	SA)			
[/]	[] .	[]	[] (2	[ADD/D] ELETE)
* CIL RETE	NTION 1	RATIONA	LE:	(If a	appl	icable	A	DEQUATE	-]
REMARKS: A SHORT ACI										

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSME ASSESSME NASA FME	NT ID:	FRCS- 05-61	-1028		1			ASA DATA BASELINE NEW		_
SUBSYSTEMDAC ID:	M:	FRCS 1028 RESIS	STOR,	1.2	K 2W					
LEAD ANA	LYST:	D. H2	ARTMA	N						
ASSESSME	NT:									
ı	CRITIC FLI		R) A		D ANC Y B		EENS C		CIL	
NASA IOA	[3 /	1R] 2R]	[P]	[F]	[P]	[X	·
COMPARE	[/	и]	[]	[]	[1	[]
RECOMMEN	DATION	S: (I	f dif	fere	nt fr	om N2	ASA)			
	[/	1 .	[]	[]	[] (A	[DD/D] ELETE)
* CIL RE	TENTIO	N RATIO	NALE:	(If	appl	icab]	A	DEQUATE DEQUATE	[]
REMARKS:										

IOA AGREES WITH NASA FMEA.

ASSESSM ASSESSM NASA FM	ENT	ID:	FRC	S-1029	9	-2			nasa Basi	ELIN:) X]	
SUBSYSTI MDAC ID: ITEM:			FRC 102 RES	_	1.	2K 2W							
LEAD ANA	ALYS'	T:	D.	HARTMA	N								
ASSESSME	ENT:												
		ricai FLIGH	LITY	R	EDU	NDANC:	SCI	REENS			CI		
	HI	DW/FU	INC	A		1	3	(2		IT	EM	
NASA IOA	[3	3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	ſ]	[]		[]	
RECOMMEN	DATI	ons:	()	f dif	fere	ent fr	om N	ASA)					
	[/]	[]	Ĺ]	[]	(A	[DD/[] DELE:	TE)
* CIL RE	PENT	ION	RATIC	NALE:	(If	appl	icab						
DEMARKS									DEQUA DEQUA		[]	
REMARKS: NO DIFFE	RENC	ES.							~~		L	1	

ASSESSME ASSESSME NASA FME	NT ID	TE:	FRC	9/88 S-1030 6KF-209	6 - 1				ASA DA'I BASELIN NI]	
SUBSYSTE MDAC ID:			FRC 103 RES		5.1K	(1/4W	,						
LEAD ANA	LYST:	:	D.	HARTMAN									
ASSESSME	ENT:												
	CRITI			RE	DUNI	DANCY	SCR	EENS			CIL ITEN	1	
		LIGH W/FU		A		В		С					
NASA IOA	[3 [3	/3 /3]	[]] []	[[]		[[] *	t
COMPARE	ſ	/]	[]	[]	[]		[]	
RECOMME	NDATI	ONS:	:	(If dif	fere	nt fr	om N	IASA)					
	[/]	[1	[]	[]	(AD	[D/D	ELE'	TE)
* CIL R	ETENT	ON	RAT	'IONALE:	(If	appl	icak		ADEQUA'		[]	
REMARKS NO DIFF		CES.											

ASSESSMI ASSESSMI NASA FMI	F.N'	די יד	'D •	FRC	5-103	1 096 -	-1			NASA DA BASELI N		x]	
SUBSYSTI MDAC ID: ITEM:		:		FRC: 103: RES:	_	, 5.1	LK 1/4	1W					
LEAD AND	AL:	YST	:	D. 1	HARTM	AN .							
ASSESSMI	ENT	r:											
	CI		ICAI LIGH	LITY	I	REDUN	IDANC	SCF	REENS		CII ITI		
		HD	W/FU	INC	2	A	F	3	(2			
NASA IOA	į	[3 [3	/3 /3]	[]	[]]	[]	[[] *	t
COMPARE	(/]	[J	[]	[]	[]	
RECOMMEN	ID#	ATI(ons:	(1	f dif	fere	nt fr	om N	ASA)				
	[•	/]	[3	[]	[[(ADD/E		E)
* CIL RE	TE	ENT	ION	RATIO	NALE:	(If	appl	icab	-	DEQUATI	e r	1	
REMARKS:										DEQUATI		ว่	
A SHORT IOA RECO	AC MM	ROS	SS A DS R	RLR EMOVA	TYPE L OF	RESI THE	STOR "SHOR	IS N	OT A AILUF	CREDIBI RE MODE	LE FAI FROM	LURE	

REPORT DATE 2/26/88

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88

(SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	II):	FRC	:S-1	032	8 -	1				DATA: ELINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				FRC 103 RES	2	OR,	1.8	K 1/	4W						
LEAD ANA	LYS	ST	:	D.	HAR	TMAN	Ī								
ASSESSME	NT:	:													
	CR					RE	DUN	DANC	y so	CREEN	S		CII		
	1	_	LIGH W/FU	NC		A			В		С				
NASA IOA	[3	/3 /3]		[]	[[]]]		[]	*
COMPARE	[/]		[)	[]	[1		[]	
RECOMMEN	IDA'	TI	ons:	:	(If	difi	fere	ent f	rom	NASA)				
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* CIL RI		NT	ION	RAT	IONA	ALE:	(II	f app	olic		ADEC	UATE ETAU	[]	
REMARKS NO DIFF		NC	ES.												

ASSESSME ASSESSME NASA FME	NT	ID	TE:	FRCS	/88 -1033 KF-20	98 - :	1		_	ASA D BASEI		_	_	
SUBSYSTE MDAC ID: ITEM:				FRCS 1033 RESI		1.8	K 1/4	W						
LEAD ANA	LYS	T:		D. H	ARTMA	N								
ASSESSME	ENT:													
	CRI		CAI	LITY	F	EDUN	DANCY	SCR	EENS			CIL		
	H		I/FU		A	\	E	3	C	:				
NASA IOA	[3	/3 /3]	[[]	[]	[]		[]	*
COMPARE	[/	1	()	ι]	[]		[]	
RECOMME	NDAT	ric	ONS	: (:	If di	ffere	nt fi	com N	IASA)					
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMI NASA FMI	ENT	ID:	FRCS-	103	4 11	.1 -1	L					ASA D BASEL		[x]	
SUBSYSTE MDAC ID:			FRCS 1034 RESIS	TOR	,	1.2K	C 2W	7									
LEAD ANA	LYS	r:	D. HA	RTM	AN												
ASSESSME	ENT:																
		rical: Flight			RE	DUND	ANC	Y	SCRE	EN.	S			CI		Л	
	HI	DW/FUI	1C	•	A			В			С				Lik	1	
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COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DATI	cons:	(If	di:	ff	eren	t f	ro	om NA	SA)						
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* CIL RE	TENT	NOI?	RATION	ALE:	:	(If	app	1 i	cabl			EQUAT		[]	
REMARKS: NO DIFFE	RENC	CES.										-2011		L		J	

ASSESSMENT ASSESSMENT NASA FMEA	r II		1/29/8 FRCS-1 NONE						ASA DA BASELI N	NE	[]	
SUBSYSTEM: MDAC ID: ITEM:	•		FRCS 1035 RESIST	ror,	1.2K	2W							
LEAD ANALY	YST	:	D. HAI	RTMAN	1								
ASSESSMEN'	r:												
CI		ICAL:		RI	EDUNDA	ANCY	SCREE	:NS			CIL	[
			NC	A		В		С					
NASA IOA	[[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEND	ATI	ons:	(If	dif	feren	t fro	om NAS	SA)					
	[3	/3	1	[]	[]	[]	(AI	[DD/DE		TE)
* CIL RET	ENT:	ION 1	RATION	ALE:	(If	app1:	icable	ΑI	DEQUA:		[]	
REMARKS: RLR42 TYP: WHICH CAN NOTE: OP: FMEA.	SH	ORT.		RECO	MEND	S ITS	S INCI	USIC	NI NC	ro 1	A FME	ΞA.	

ISSUE RESOLVED AT MEETING. SHORT FAILURE MODE FOR THIS RESISTOR TO BE CREATED.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	FI	RCS-	10		94	-1							ASA BASE:	LII		[]	
SUBSYSTI MDAC ID: ITEM:				10	RCS 036 ESIS'	ro:	R,	1.	. 2K	21	N											
LEAD AND	ALYS	ST	:	D.	. HA	RT	MAI	N														
ASSESSMI	ENT	:																				
		F	ICAL: LIGH: W/FUI	r	ľ		RI A		JNDA	ANG	CY B	sc	REE	NS	c				CI I	[L [EN	1	
NASA			•			r	P	1		ſ		1		г	P	1			г	x	1	*
IOA	į	3	/1R /2R	j		ĺ	P	j		į	F	j		[P	j			ĺ	X	j	
COMPARE	[/N]		[]		[]		[]			[]	
RECOMMEN	1DA'	ri	ons:		(If	d :	if:	fer	cent	= :	fro	om	NAS.	A)								
	[/]		[]		[]		[]		(AI	[/ac	/DE] ELI	ETE
* CIL RI		NT:	ION 1	RAT	NOI	AL	Ε:	(1	[fa	pp	91 i	ica				EQU EQU			[]	

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME	NΤ	II):	FRCS	-1037	94 -	-2				DATA LINE NEW			
SUBSYSTEMDAC ID:	M:			FRCS 1037 RESI		1.2	2K 2W							
LEAD ANA	LYS	T:	}	D. H	ARTMAI	N								
ASSESSME	NT:	;												
	CRI		CAL LIGH	YTI	R	EDUN	IDANC	Y SCR	EENS			CII	_	
	F		_		A			В	C	2				
NASA IOA	[3	/3 /3]	[]	[[]	[]		[[]	*
COMPARE	[/]	[]	E)	[]		[]	
RECOMMEN	DAT	ric	ons:	(1	f dif	fere	ent f	rom N	IASA)					
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* CIL RE		NT:	ION	RATIO	NALE:	(I:	f app	olicak	7	ADEQU ADEQU	JATE JATE	[]	
NO DIFFE	RE	NC)	ES.											

ASSESSME ASSESSME NASA FME	INT :	ID:	FRC	9/88 S-1038 6KF-20	96 -	-1			NASA DAT BASELII NI] x]	
SUBSYSTE MDAC ID:			FRC 103 RES		5.1	1K 1/4	W					
LEAD ANA	LYS	r:	D.	HARTMA	N							
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		PICAI FLIGH		R	EDUI	NDANCY	SCF	REENS	5	CII		
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SUBSYSTE MDAC ID:				FR 10 RE	39	ror,	5.1	K 1/4	.W						
LEAD ANA	LYS	ST	:	D.	HAI	RTMA	N								
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS															
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FLIGHT HDW/FUNC A B C														••	
	HDW/FUNC A B C NASA [3 /3] [] [] [] IOA [3 /3] [] []												[]	*
COMPARE	(/]		[]	Ĺ]	(]		(]	
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	[/]		[]	[]	[]	(A)	[DD/E		ETE)
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REMARKS: A SHORT IOA RECO FMEA.	ACI														

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	FRO	29/88 CS-1040 -6KF-20		-1		ì	IASA BASE	DATA LINE NEW	[
SUBSYSTEMDAC ID:				FRO 104 RES		1.8	3K 1/4	W						
LEAD ANA	ALYS	ST	:	D.	HARTMA	N								
ASSESSMI	ENT	:												
	CR		ICAI LIGH	LITY	R	EDUN	IDANCY	SCR	EENS			CII		
	I		W/FU		. A		E	3	C	2				
NASA IOA	[3 3	/3 /3]	[]	[[]	[[]		[]	*
COMPARE	[/	3	[]	[1	[]		[]	
RECOMMEN	NDA!	rI	ONS:	. ((If dif	fere	ent fr	om N	ASA)					
	[/]	[]	[]	[]	(A	[DD/I] DELE	TE)
* CIL RI	•			RATI	ONALE:	(Ii	appl	icab.		ADEQU ADEQU		[]	
NO DIFFI	TKL	NC.	DO.											

ASSESSMI ASSESSMI NASA FMI	ENT	II	TE:	FRC	9/88 S-1041 6KF-20	l)97 –	1			ASA I BASEI				
SUBSYST: MDAC ID ITEM:				FRC 104 RES		1.8	K 1/4	W						
LEAD AN	ALYS	ST:	:	D.	HARTM!	AN.								
ASSESSM	ENT:	:												
	CRI			LITY	I	REDUN	DANCY	SCF	REENS			CIL		
	I		LIGH W/FU	JNC	1	A	E	3	c	:				
NASA IOA	[3	/3 /3]	[[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	Γ]		[]	
RECOMME	NDA!	ΓI	ONS	: ((If di	ffere	ent fi	om 1	NASA)					
	[/]	C)	[)	ſ]	(AI	[DD/I	_	ETE)
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REMARKS A SHORT IOA REC FMEA.	י אכי	RO EN	ss :	A RLI REMO	R TYPE VAL OF	RESI THE	ISTOR "SHOI	IS I	NOT A	CRED	IBLE	FA:	- LU: TH:	RE. IS

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMI ASSESSMI NASA FMI	ENT	I	ATE:	FRC	9/88 S-1042 6KF-20		-1			NASA DA BASELI N		x]	
SUBSYSTI MDAC ID: ITEM:				FRC 104 RES	-	2.	2K 1/	2 W					
LEAD ANA	LY	ST	:	D. 1	HARTMA	N							
ASSESSMI	ENT	:											
	CR		ICAI LIGH		R	EDUI	NDANC'	Y SCI	REENS	}	CI	L EM	
	1	HDI	/FU	INC	A		1	В		С		EM	
NASA IOA]	3 3	/3 /3]	[]	[]	[]	[]	*
COMPARE	[/]	[]	[]	ſ]	[]	
RECOMMEN	DA'	FIC	ons:	(:	[f dif	fere	ent fi	com N	IASA)				
	[/]	[]	[]	[]	[(ADD/	DELI	ETE :
* CIL RE REMARKS:				RATIO	ONALE:	(II	f app]	licab	·	ADEQUATI ADEQUATI	_]	

ASSESSMENT ASSESSMENT NASA FMEA				97 - 1				ASA DATA BASELIN NE		x]	
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1043 RESIST									
LEAD ANALYS	ST:	D. HAF	RTMAI	Ŋ							
ASSESSMENT	:										
CR	TICAL	ITY	RI	EDUND <i>i</i>	MCY	SCREE	ens		CI Th	IL TEM	
I	HDW/FU		A		В		С			. 1311	
NASA [IOA [3 /3 3 /3]	[[]	[]	[]	[[]	*
COMPARE [/]	[]	[]	[]	[]	
RECOMMENDA	rions:	(If	dif	ferent	fro	om NAS	SA)				
[/]	[]	[]	[] (DEI	LETE
* CIL RETE	NTION :	RATION	ALE:	(If a	appl:	icable	A	DEQUATE DEQUATE	[]]
REMARKS: A SHORT ACI IOA RECOMMI FMEA.							r a (CREDIBL	E FA	AILU	

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT ID:	FRCS-		-1		NASA BASE	DATA LINE NEW	[]
SUBSYSTE MDAC ID:	M:	FRCS 1044 RESIS	STOR, 5	.1K 1/4	w				
LEAD ANA	LYST:	D. HA	ARTMAN						
ASSESSME	NT:								
	CRITICA		RED	UNDANCY	SCREE	ins		CIL	
	FLIC HDW/I		A	В		С		TIE	M
NASA IOA	[3 /3	3]	[]	[[]	[]		[] *
COMPARE	[/]	[]	[]	[]		[]
RECOMMEN	DATIONS	S: (I1	fdiffe	rent fr	om NAS	SA)			
	[/	1	[]	[]	[]	(A	[DD/D] ELETE
* CIL RE	TENTION	N RATION	NALE: (If appl	icable	ADEQU INADEQU		[]
REMARKS:									

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FMI	ENT	II	ATE:	FRCS	9/88 5-1045 5KF-20	93 -	1			ASA I BASEI		[
SUBSYSTI MDAC ID ITEM:				FRCS 1045 RESI		5.1	K 1/4	W						
LEAD AN	ALY	ST	:	D. I	HARTMA	N								
ASSESSM	ENT	:												
	CR			YTI	F	REDUN	DANCY	SCR	EENS			CIL		
			LIGH W/FU	INC INC	A	.	E	3	C	2			•	
NASA IOA]	3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/	1	[]	ſ]	[)		[]	
RECOMME	NDA	TI	ons:	: (If di	ffere	ent fi	com N	ASA)					
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REMARKS A SHORT IOA REC FMEA.	' AC	RO EN	SS 1	A RLR REMOV	TYPE	RESI THE	(STOR SHO!	IS N RT" I	OT A	CRED	IBLE	FAI	LUI THI	RE. IS

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	CNT	ID:	FRCS-	-1046		1]	NASA D BASEL	INE		,] x]	
SUBSYSTE MDAC ID:			FRCS 1046 RESIS	STOR,	2.2	K 1/:	2W						
LEAD ANA	LYS	T:	D. HA	RTMA	N								
ASSESSME	NT:												
		TICAL		R	EDUN	DANC	Y SCR	EENS			CII		
FLIGHT HDW/FUNC A B C												EM	
NASA IOA	[3 /3 3 /3]	[]	[]	[]		[] ,	*
COMPARE	[/]	[]	[]	[]		[]	
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* CIL RE	TEN	rion :	RATION	ALE:	(If	app]	licab		ADEQUA'		[]	
REMARKS: NO DIFFE	REN	CES.						****	gvn	- 11	L	J	

ASSESSMI ASSESSMI NASA FMI	ENT	TI	٦.	FRCS	-104	7 098 -	·1		1	NASA I BASEI		[[]	
SUBSYST				FRCS 1047 RESIS	STOR	, 2.2	K 1/2	?₩						
LEAD AN	ALYS	ST	:	D. H	ARTM	AN								
ASSESSM	ENT:	:												
	CRI			ITY	1	REDUN	DANCY	SCR	EENS			CII		
	F		LIGH W/FU	NC	1	A	E	3	(2		TTE	.M	
NASA IOA]	3	/3 /3]	[]	[]]]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMME	NDAT	ΓI	ONS:	(I	f di	ffere	nt fr	om N	ASA)					
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* CIL R	ETEI	NT:	ION	RATIO	NALE	: (If	appl	icab		ADEQU <i>A</i>	\ጥE	r	1	
DEM DVA										ADEQUA		ί	j	
REMARKS A SHORT IOA RECO FMEA.	ACI													

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	FRCS-1048	98 -1		NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1048 RESISTOR,	1.8K 1/4	W		
LEAD ANALYST:	D. HARTMAI	4			
ASSESSMENT:					
CRITICA FLIG	LITY RI HT	EDUNDANCY	SCREEN	is	CIL ITEM
HDW/F		В		С	
NASA [3 /3 IOA [3 /3] [] [] []	[] *
COMPARE [/] [] [] []	[]
RECOMMENDATIONS	: (If dif:	ferent fr	om NASA	7)	
[/] [] [] [] (2	[] ADD/DELETE
* CIL RETENTION REMARKS: NO DIFFERENCES.		(If appl		ADEQUATE INADEQUATE	

ASSESSMEN ASSESSMEN NASA FMEA SUBSYSTEM	T :	DA ID :	:	1/29 FRCS 05-6 FRCS 1049	-1049 KF-209	98 - 1	L				ATA: INE [] NEW [X]			
MDAC ID: ITEM:				RESI	STOR,		K 1/4W	7						
LEAD ANA	LYS	T:		D. H	[ARTMAI	N								
ASSESSME	Tr:													
•	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C													
HDW/FUNC A B C														
NASA IOA	ſ	3	/3]		1	[[]	[[]	[] *			
COMPARE	[/]	Ţ	1	τ	3	ί]	[]			
RECOMMEN	IDA'	ΤI	ons	: (If dif	fere	ent fr	om 1	NASA)					
	[/	1	Į]	[]	(]	[] (ADD/DELETE)			
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REMARKS A SHORT IOA REC FMEA.	AC	RC IEI	SS NDS	A RLE REMOV	R TYPE VAL OF	RES THE	ISTOR "SHOI	IS RT"	NOT A FAILU	CREI	DIBLE FAILURE. DDE FROM THIS			
ISSUE R (SHORT	ESC FAI	LL! OL'	VED URE	AT MI	EETING TO BE	WIT	H SUB	SYSI •	EM MA	NAGE	R ON 1/20/88			

ASSESSM ASSESSM NASA FM	EN] EA	#:	ATE D:	FRC 05-	S-105 6KF-2	50 2109	-1			NASA D BASEL		[x]]
SUBSYST MDAC ID ITEM:				FRC 105 RES	-	2, 5.	1K 1/	′4W					
LEAD AN	ALY	ST	:	D.	HARTM	AN							
ASSESSM	ENT	:											
	CR		[CA LIG	LITY HT		REDUI	NDANC	y sci	REENS			IL	
	1	HDW	//F 1	UNC	•	A		В	1	С	I	TEM	
NASA IOA]	3	/3 /3]	[[]]]	[]]]	*
COMPARE	[/		ſ	J	[]	ι]	[]	
RECOMMEN	'DA'I	rio	NS:	(1	f di	ffere	nt fi	com N	ASA)				
			/		[_	[[1	[(ADD/] DELI	ETE)
* CIL RE	TEN	TI	ON	RATIO	NALE:	(If	appl	icab		DEQUAT	E [1	
REMARKS: NO DIFFE	REN	CES	s.						INA	DEQUAT	E [j	

ASSESSME ASSESSME NASA FME	NT I	D:		1051	09 - 1			N	IASA DA BASELI		[x]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1051 RESIST	ror,	5.1K	1/41	W							
LEAD ANA	LYSI	?:	D. HAI	RTMAI	4									
ASSESSME	NT:													
		ICALI		RI	EDUND	ANCY	SCRE	ENS			CI		,	
		W/FUI		A		В		C	:		11	EM	l.	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	E]	[3		[]	
RECOMMEN	DATI	ONS:	(If	difi	feren	t fr	om NAS	SA)						
	[/]	[]	[]	[1	(AI		DE		ETE)
* CIL RE	TENT	'ION I	RATIONA	ALE:	(If a	appl:	icable	A	DEQUAT		[]	
REMARKS:										_	•		4	

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME SUBSYSTE MDAC ID: ITEM: LEAD ANA	INT I IA #: IM:	D:	FRCS 05-6 FRCS 1052 RESI	-1052 KF-21 STOR,	2.2	1 K 1/2V	ī		ASA I BASEI		[;]	
ASSESSME	:NT:												
		ICAL LIGH	ITY T	R	EDUN	DANCY	SCR	EENS			CIL		
	HE	W/FU	NC	A		В		C	;				
NASA IOA	[3	/3]	[[[]	*					
COMPARE	[/]	[1	C]	[]		[]	
RECOMMEN	IDATI	ONS:	(I	f dif	fere	ent fro	om N	ASA)					
	[/]	[]	[]	[)	(A	[DD/E) DELE	TE)
* CIL RE	;		RATIO	NALE:	(If	appl:	icab	P	DEQUI		[]	

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SUBSYSTEM MDAC ID:				FRCS 1053 RESI		2.2	K 1/2W	J					
LEAD ANA	LYS'	T:		D. I	IARTMAI	1							
ASSESSME	T:												
•				YTI	R	EDUN	DANCY	SCF	REENS		CIL ITEM		
FLIGHT HDW/FUNC A B C NASA [3 /3] [] [] [] * 10A [3 /3] [] [] []													
NASA IOA	[3	/3 /3]	[]	[]	[[]	[] *		
COMPARE	[/]	[]	[]	[]	[]		
RECOMMEN	DA'I	ri,	ONS	: (If dif	fere	ent fr	om 1	NASA)				
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* CIL RE	ETEI	ΝT	NOI	RAT	ONALE:	: (I:	f appl	ica	4		UATE [] UATE []		
REMARKS: A SHORT IOA RECO FMEA.	AC: OMM	RO EN	SS IDS	A RLI REMO	R TYPE VAL OF	RES THE	ISTOR "SHO	IS RT"	NOT A FAILU	CREI	DIBLE FAILURE. ODE FROM THIS		
ISSUE R	ESO FAI	L	/ED JRE	AT M MODE	EETING TO BE	WIT REM	H SUB IOVED)	sysi •	EM MA	NAGE	R ON 1/20/88		

ASSESSM ASSESSM NASA FM	ENT ENT EA	7 I 7 I *:	ATE D:	FRC 05-	9/88 S-105 6KF-2	34 2109	-1			NASA DA BASELI] X 1	
SUBSYST MDAC ID ITEM:	EM:			FRC 105	:s						•	•	
LEAD AN	ALY	ST	:	D.	HARTM	AN							
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	CR		ICA: LIG	LITY HT	:	REDUI	NDANC	Y SCI	REENS		CI	_	
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1076	NASA DATA: BASELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM: 2	FRCS 1076 RJDF1A F2 MANIFOLD DRIV	VER ON SWITCH CONTACTS 1,
LEAD ANALYST:		
ASSESSMENT:		
CRITICAL FLIGH	EENS CIL ITEM	
HDW/FU	NC A B	С
NASA [/ IOA [3 /2R] [] []] [P] [P]	[] [] * [P] []
COMPARE [N /N] [N] [N]	[N] []
RECOMMENDATIONS:	(If different from NA	ASA)
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* CIL RETENTION	RATIONALE: (If applicabl	
REMARKS:		ADEQUATE [] INADEQUATE []
RJDF1A F2 MANIFO	LD DRIVER SWITCH 8 RE-AN RCS 11130X-11134X.	VALYZED BY IOA. SEE

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SUBSYSTI MDAC ID: ITEM: 2				FRCS 1077 RJDF1	A F2	MANI	FOLD	DRIVE	R	ON SWITCH	COI	NTACTS	3 3
LEAD AND	ALY	ST	:										
ASSESSMI	ENT	:											
	CR		ICAL LIGH		RI	EDUND	ANCY	SCREE	ens		CI		
]		W/FU		A		В			С			
NASA IOA	[2	//2]	[]	[[]	[]	[:	x] *	
COMPARE	[N	/N]	[]	[]	[1	[]	ן א	
RECOMME	NDA'	TI:	ons:	(If	dif:	feren	t fro	om NAS	SA)				
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REMARKS RJDF1A ASSESSM	F2							RE-ANA	LY	ZED BY IO	A.	SEE	

ASSESSME ASSESSME NASA FME	NT	I		FRCS	-1078	3			1	NASA BASE	DATA: LINE NEW]	
SUBSYSTE MDAC ID: ITEM: 4				FRCS 1078 RJDF:	lA F2	MAN	IFOLI	DRI	VER (OFF S	WITCH	CONT	racts	3,
LEAD ANA	LYS	T:												
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	CRITICALITY REDUNDANCY SCREENS CIL ITEM													
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* CIL RE	-					•			IN?	ADEQUA	ATE	[]		
RJDF1A F ASSESSME								KE-A	NALYZ	TED B	Y TOY	. SE	Œ	

ASSESSMEI ASSESSMEI NASA FME	TN	IL		FRC	s-1079					ASA D BASEI]	
SUBSYSTEMDAC ID: ITEM:	M:			FRC 107 RJD		MAN	IFOLD	DRI	VER O	FF SW	ITCH	(CO	NTACTS	3,
LEAD ANA	LYS	ST	:											
ASSESSME	NT:	:												
	CR?		ICAL LIGH	ITY	R	EDUN	DANCY	SCF	REENS			CIL		
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NASA IOA	[3	/3]]]	[]	[[]		[] *	
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* CIL RI	ETE	ΝT	NOI	RAT	IONALE:	(11	f appl	ica		ADEQU ADEQU		[]	
REMARKS RJDF1A I ASSESSMI	F2	MA 'I	NIF Ds	OLD FRCS	DRIVER 11130X	SWI:	TCH 8	RE-	ANALY:	ZED B	Y IO	Α.	SEE	

ASSESSM ASSESSM NASA FM	ENT	I	D:	E:	FRCS-	.10	80							ASA D BASEI		[]	
SUBSYSTIMDAC ID ITEM:					FRCS 1080 RJDF1	A	F2	MAN	IFO	LD	DR	IVER	OI	N SWI	тсн	co	NTACTS	5,
LEAD AND	ALY	ST	:															
ASSESSME	ENT	:																
FLIGHT HDW/FUNC A B C													CI:	-				
NASA IOA	<u>[</u>	_	/	_]	[]	[]	[]		ſ] *	
IOA	L	3	/ 2	K	J	[P]	[P]	[P]		[j	
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RECOMMEN	DAT	ric	SNC	:	(If	d:	if1	ere	nt i	fro	om N	(ASA						
	[/		3	[]	[]	[]	(AD	[D/I] DELETE)
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REMARKS:														EQUAT EQUAT		[[]	
RJDF1A F ASSESSME	2 M NT	IAN II	IIF)s	OL FR	D DRIV	/EF	R S	WITC	CH 8	R	E-A	NALY	ZE	D BY	IOA	•	SEE	

ASSESSMI ASSESSMI NASA FMI	ENT	II		FRCS-	1081				ì	NASA DAT BASELIN NI]	
SUBSYSTI MDAC ID: ITEM: 6				FRCS 1081 RJDF1	A F2	MANI	FOLD	DRIV	ER (ON SWITC	сн с	ON	FACTS	5,
LEAD AND	ALY	ST	:											
ASSESSMI	ENT	:												
	CR		ICAL LIGH		R	EDUND	ANCY	SCREI	ens		_	IL TEI	vr	
	1		W/FU		A		В		(2	_		•	
NASA IOA	[2	/2]	[]	[]	[]	[x] *	
COMPARE	[N	/N	1	[]	[]	[]	[N]	
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* CIL R		NT:	ION	RATION	ALE:	(If	appl	icabl	1	ADEQUATI ADEQUATI]	
REMARKS RJDF1A ASSESSMI	F2							RE-AN	ALY:	ZED BY	IOA.		SEE	

ASSESSMENT D ASSESSMENT I NASA FMEA #:		1082		NASA DA BASELI N		
SUBSYSTEM: MDAC ID: ITEM: 8	FRCS 1082 RJDF1	A F2 MANI	FOLD DRIV	VER OFF SWI	ITCH CONTACTS	7,
LEAD ANALYST	:					
ASSESSMENT:						
	ICALITY LIGHT	REDUND	ANCY SCRE	EENS	CIL ITEM	
_	W/FUNC	A	В	С	TIEM	
	/] /2R]	[] [P]	[] [P]	[] [P]	[] *	
COMPARE [N	/N]	[N]	[N]	[N]	[]	
RECOMMENDATI	ONS: (If	differen	nt from NA	ASA)		
[/]	[]	[]	[]	[] (ADD/DELETE)	
* CIL RETENT REMARKS:	ION RATION	ALE: (If	applicab]	le) ADEQUAT INADEQUAT	• •	
RJDF1A F2 MA ASSESSMENT I				NALYZED BY	IOA. SEE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1	083					SA DA BASELI N		[]	
SUBSYSTEM: MDAC ID: ITEM: 8	FRCS 1083 RJDF1A	. F2	MANI	FOLD	DRIV	ER O	FF SWI	ГТСН	CON	TACT	s 7,
LEAD ANALYST:											
ASSESSMENT:									CIL		
CRITICA		R	EDUND	ANCY	SCR	EENS			ITE	A	
FLIG HDW/F		A		В		C					
NASA [/ IOA [2 /2]	[]	[]	[]		[[X] *	
COMPARE [N /N	1	[1	[]	[1		[N]	
RECOMMENDATIONS	: (If	dif	fere	nt fi	om N	ASA)					
]	[]	[]	[1	(A	[.DD/[] ELETI	E)
* CIL RETENTION	N RATION	IALE	: (If	app:	licak		ADEQUA ADEQUA		[]	
REMARKS: RJDF1A F2 MANI ASSESSMENT IDS	FOLD DRI	[VER 1130	SWIT X-111	CH 8	RE-	ANALY	ZED B	y IC	A.	SEE	

SUBSYSTEM: FRCS MDAC ID: 1084 ITEM: RJDF1A F2 MANIFOLD LOGIC SWITCH LEAD ANALYST: ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C NASA [/] [] [] [] * IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] [] * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIJDF1A F2 MANIFOLD DRIVER SWITCH 7 RE-ANALYZED BY IOA. SEE ASSESSMENT IDS FRCS 11125X-11129X.	ASSESSM ASSESSM NASA FM	EN.	r]	D:	FRCS-	-10	084	ļ						ASA : BASE:	LIN]	
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C NASA [/] [] [] [] * 1	MDAC ID				1084	A	F2	MAN	IFO	LD	LOG	ic	SW	ITCH			-	
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C NASA [/] [] [] [] [] * 10A [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [N] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] [] * CIL RETENTION RATIONALE: (If applicable) REMARKS: RUDF1A F2 MANIFOLD DRIVER SWITCH 7 DE NALUGED DRIVER SWITCH 7 DRIVER S	LEAD AN	ALY	ST	':														
FLIGHT HDW/FUNC A B C NASA [/] [] [] [] [] * IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALYSED DE CELL	ASSESSM	ENT	:															
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IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIMADEQUATE [] RIMADEQUATE [] RIJDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALYSES TO A			HD	W/FU	NC		A			В			С			11	EM	
COMPARE [N /N] [N] [N] [N] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALUEDO DE LETE		[3	/ /2R]	[P]]	P]	[P]		[]	*
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[/] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] REMARKS: RINADEQUATE [] RIJDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALUGED DE COMPANY.	RECOMMEN	IDA:	ric	ons:	(If	d:	iff	eren	nt 1	rc	m NA	ASA)	į.					
ADEQUATE [] REMARKS: RJDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALYSED DE 1998		[/]	[]	[]	[]	(AI	[DD/1] DELE1	ΓE)
REMARKS: INADEQUATE [] RJDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALYZED DE	* CIL RE	TEN	ITI	ON F	ATIONA	LE	::	(If	app	li	cabl	.e)						
RJDF1A F2 MANIFOLD DRIVER SWITCH 7 RE-ANALYZED BY IOA. SEE ASSESSMENT IDS FRCS 11125X-11129X.												IN	AD:	EQUAT	ľΕ]	
• •	RJDF1A F. ASSESSME	2 M NT	IAN ID	IFOL s FR	D DRIV CS 111	ER 25	x-	WITC:	H 7 9X.	R	E-AN	ALY	ZE	D BY	IOA	١.	SEE	

ASSESSME ASSESSME NASA FME	NT	IL		FRCS-1	.085				N	IASA DA BASELI N		-]	
SUBSYSTE MDAC ID: ITEM:				FRCS 1085 RJDF1	A F2	MANI	FOLD	LOGIC	: SV	VITCH				
LEAD ANA	LYS	ST:	:											
ASSESSME	NT:	:												
	CR				RE	DUND.	ANCY	SCREE	ens			CII		
	1		LIGH /FU		A		В		(С				
NASA IOA	[2	//2]	[]	[]	[]]	[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	1]	
RECOMMEN	IDA'	TI	ons:	(If	dif	feren	t fr	om NAS	sa)					
	[/]	[]	[]	[]	(A	[DD/I	_	ETE)
* CIL RI	ETE	NT	ION	RATION	ALE:	(If	appl	icabl		ADEQUA' ADEQUA'		-]	
REMARKS: RJDF1A I ASSESSMI	F2	MA I	NIFC Ds F	LD DRI	VER	SWITC	CH 7	RE-AN	ALY	ZED BY	10	A.	SI	EE

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SUBSYSTI MDAC ID: ITEM:				FRCS 1086 RJDF1	A :	F2	MAN	VIFO	LD	LOG	SIC	SW	ITCI	H ON	CON	TACTS	: 1,
LEAD AND	\L Y	ST	:														
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NASA IOA]	3	/ /2R]	[P]]	P]	[P]		[] *	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1087		N	BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1087 RJDF1A F2	MANIFOLD	LOGIC SW	ITCH ON	CONTACTS 1, 2	
LEAD ANALYST:						
ASSESSMENT:						
CRITICAL		EDUNDANCY	SCREENS		CIL ITEM	
FLIGH HDW/FU		В	C		4	
NASA [/ IOA [2 /2] [] [] []	[x] *	
COMPARE [N /N] [] [] [1	[N]	
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)			
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* CIL RETENTION	RATIONALE:	(If appl	1	ADEQUATE ADEQUATE	[]	
REMARKS: RJDF1A F2 MANIFO ASSESSMENT IDS F	LD DRIVER RCS 11125X	SWITCH 7 -11129X.	RE-ANALY:	ZED BY IO	A. SEE	

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SUBSYSTI MDAC ID: ITEM: 4				FRCS 1088 RJDF1	A F2	MAN	[FOLD	LOGI	C SI	WITCH	OFF	CON	FACTS	3
LEAD ANA	LY	ST	:											
ASSESSME	ENT	:												
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NASA IOA	[3	/3]	[]	[]	[]		[] *	
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REMARKS:										DEQUA DEQUA		[]	
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SUBSYSTE MDAC ID: ITEM: 4			FRCS 1089 RJDF1	A F2	MAN	[FOLD	LOG	c sw	итсн	OFF	CON	TACTS	3,
LEAD ANA	LYS	r:											
ASSESSME	NT:												
		TICAL FLIGH		R	EDUNI	DANCY	SCRI	EENS			CII	-	
	_	DW/FU	_	A		В		C	:		*15	11.1	
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COMPARE	[]	N / N]	[]	[]	C	3		[]	
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	[/]	[]	[]	[]	(A)	[DD/I) DELETE)
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REMARKS: RJDF1A F ASSESSME	'2 M						RE-AI	NALY2	ZED BY	7 IO	Α.	SEE	

ASSESSMENT DE ASSESSMENT IN NASA FMEA #:		FRCS-1	LOS	90								DATA: LINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1090 RJDF2	A I	F3	MANI	FO1	ĹĐ	DRIV	ER	sı	VITC	ж			
LEAD ANALYST	:														
ASSESSMENT:															
CRIT:	[CAL] LIGHT			RI	EDUND	ANG	CY	SCRE	EN:	5			CIL		
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NASA [IOA [3	/ /2R]	[P]	[P]	[[P]		[]	*
COMPARE [N	/N]	[N]	[N]	[N]		[3	
RECOMMENDATIO	ons:	(If	di	if	feren	t i	fro	om NA	SA)					
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REMARKS: RJDF2A F3 MAI ASSESSMENT II								RE-AN			~		•	SEE	

ASSESSMI ASSESSMI NASA FMI	ENT	I		FRCS	-1091	•			ŀ	IASA 1 BASE1		[]	
SUBSYSTIMDAC ID				FRCS 1091 RJDF:	2 A F3	MAN	IFOLD	DRI	VER S	SWITC	Н			
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
	CR			ITY	F	REDUN	IDANCY	SCR	EENS			CI		
			LIGH W/FU		P	1	Е	3	(2		11.	LIM	
NASA IOA]	2	/2]	[]	[]	[]		[x]	*
COMPARE	[N	/N]	[]	[]	[]			N]	
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REMARKS RJDF2A ASSESSM	F3							RE-A	NALY:	ZED B	Y IO	٨.	SE	EE

ASSESSMENT ASSESSMENT NASA FMEA	ID:	FRCS-10	092					ASA DATA BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM: 2		FRCS 1092 RJDF2A	F3	MANIF	OLD	DRIVE	ER OI	N SWITCH	CON	TACTS	1,
LEAD ANALY	ST:										
ASSESSMENT	:										
CR	ITICAL:		RE	EDUNDA	NCY	SCREE	ens		CIL		
	HDW/FUI	NC	A		В		С				
NASA [IOA [/ 3 /2R] [[[P]	[[P]	[[P]	[[] *	
COMPARE [n /n] [[N]	[]]	[N]	[]	
RECOMMENDA	TIONS:	(If d	liff	erent	fro	om NAS	SA)				
[/] [[]	[]	[] (A	[DD/D] ELETE))
* CIL RETE	NTION 1	RATIONAI	LE:	(If a	ppl	icable	•	DEQUATE	ſ	1	
REMARKS:								DEQUATE	į	ĵ	
RJDF2A F3 ASSESSMENT						RE-ANA	LYZI	ED BY IO	A. :	SEE	

ASSESSME ASSESSME NASA FME	TK	II		FRCS	-1093						DATA: ELINE NEW	[]]	
SUBSYSTE MDAC ID: ITEM: 2				FRCS 1093 RJDF	2A F3	MAN	IFOLD	DR	IVER	on s	WITCH	CO:	NTÆ	\CTS	3 1
LEAD ANA	LY	ST	:												
ASSESSME	NT	:													
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	1		W/FU		A		В			С					
NASA IOA	[2	/2]	[]	[]	[]		[x :) *]	
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* CIL R	ETE	NT	ION	RATIO	NALE:	(If	appl	ica			UATE UATE]]	
REMARKS RJDF2A I ASSESSMI	F3	MA 'I	NIFO Ds F	LD DE	RIVER	SWI7	TCH 6	RE-	ANAL	ZED	ву Іо	A.	S	EE	

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SUBSYST MDAC ID ITEM: 4				FRC 109 RJD	4	3 MAI	NIFOLD	DR	IVER (OFF 8	SWITCH (ONTACT	'S 3,
LEAD AN	ALY	ST	:										
ASSESSM	ENT	!:											
	CR		ICAI LIGI	LITY	F	REDUI	NDANCY	SCI	REENS		CI	L EM	
		HD	W/FT	JNC	7	1	В	•	(2		2	
NASA IOA	[3	/ /3]]]	[]	[[]]] *	
COMPARE	[N	/N]	ſ]	[]	[]	[3	
RECOMME	NDA	TI	ONS:	: (:	f dif	fere	ent fr	om N	IASA)				
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REMARKS: RJDF2A I ASSESSME	73]							RE-A	NALY2	ED E	Y IOA.	SEE	

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SUBSYSTI MDAC ID: ITEM: 4				FRCS 1095 RJDF	2A F3	3 MAN	IFOLD	DR	IVER (OFF	SWITC	ен с	:ONTA	.CTS 3
LEAD ANA	LYS	ST	:											
ASSESSME	ENT	:												
	CRI		ICAI LIGH	ITY	F	REDUN	DANCY	SCF	REENS			CI	L EM	
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NASA IOA	[3	/2R]	[P]	[P]	[P]		[[] *	•
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REMARKS:							_	-			IA IA	DEQU.	ATE ATE	[]	
RJDF2B F	4/	F5	MAN	FOLD I	.OG	IC I	RE-AN	AL	ZED	вч	IC	A.	SEE	ASS	ESSM	ENT
IDs FRCS	3 1	11	45X-1	L1149X.												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1117					ASA DATA: BASELINE NEW	[]
30001012	FRCS 1117 RJDF2B F4/	/F5 MA	NIFO:	LD LC	GIC	SWITCH		
LEAD ANALYST:								
ASSESSMENT:								
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FLIGH HDW/FU	_		В		С			
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* CIL RETENTION	RATIONALE:	(If a	appli	icabl		ADEQUATE ADEQUATE]
REMARKS: RJDF2B F4/F5 MAI IDs FRCS 11145X	NIFOLD LOGI -11149X.	C RE-	ANAL'	YZED	BY :	OA. SEE	ASS	SESSMENT

ASSESSME ASSESSME NASA FME	TN	I		FI	RCS-1	11	18								DATA ELINI NEV			
SUBSYSTE MDAC ID: ITEM: 1, 2	M:				18	3	F4,	/F5	MAN	ΊF	OLD	LOG	ic	sw	ІТСН	on	CON	PACTS
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ASSESSMEN ASSESSMEN NASA FME <i>l</i>	T	ID		FRCS	5-1119				ì	IASA D BASEL		[]	
SUBSYSTEMDAC ID: ITEM: 1, 2				FRCS 1119 RJD		F5 1	MANIFO	old :	LOGI	C SWIT	CH O	n co	NTA(CTS
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ı	CR]			ITY	RE	DUN	DANCY	SCR	EENS			CIL ITEN	1	
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* CIL RE	ETE	NT	ION	RATI	ONALE:	(If	appl	icak		ADEQU NADEQU	ATE ATE	[]	
REMARKS: RJDF2B I IDs FRCS	74/	F5	MA 45X	NIFOI -1114	LD LOGI	C RI	E-ANAI	YZEI	D BY	IOA.	SEE	ASS	ESSN	MENT

ASSESSM ASSESSM NASA FM	EN'I	ľ	D:		CS-112	0				nasa Basi	ELINE		
SUBSYST MDAC ID ITEM: 3, 4				FR 11 RJ	20	4/ F 5	MANII	FOLD	LOGI	C SW	ГТСН	OFF	CONTACTS
LEAD AN	ALY	ST	:										
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	CR		ICAI LIGH	LITY	F	REDUM	NDANCY	SC	REENS			CII	_
				JNC	A	\	E	3	(2		ITE	ŭ M
NASA IOA	[3	/3]	[]	[]	[]		[] *]
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REMARKS: RJDF2B F IDs FRCS	4/I 1:	F5 L14	MAN 5X-	IFOL 1114	D LOGI	C RE	-ANAL	YZEC				ASS	ESSMENT

ASSESSME ASSESSME NASA FME	NT	II		FRCS-1	121					NASA I BASEI		[-	
SUBSYSTE MDAC ID: ITEM: 3, 4				FRCS 1121 RJDF21	3 F4/	/F5	MANIFO	DLD	LOGI	C SWI	гсн с	FF	CONT	ACTS
LEAD ANA	LYS	ST	:											
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REMARKS: RJDF2B I IDs FRCS	74/	F5 11	MAN 45X-	IFOLD 11149X	LOGI	C RI	E-ANAL	YZE	D BY	IOA.	SEE	ASS	SESSN	MENT

ASSESSMEN ASSESSMEN NASA FMEA	IT :	ID:		FRCS-	1122						DATA LINE NEW	[]	
SUBSYSTEM MDAC ID: ITEM:	ſ:			FRCS 1122 RJDF21	3 L5,	/F5/R5	5 MAI	NIFOL	D DR	IVER	SWI	гсн	ſ		
LEAD ANAI	LYS!	T:													
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c				TY	RI	EDUND A	NCY	SCRE	ENS			CI		•	
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									IA IANI	DEQUA DEQUA	ATE ATE	[]	
REMARKS: RJDF2B F4 ASSESSMEN								15 RI						. •	SEE

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	FRCS-112	23				ASA DATA BASELINE NEW]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1123 RJDF2B	L5/F	5/R5 MA	NIFOLD	DR:	IVER SWI	тсн		
LEAD ANALYST:									
ASSESSMENT:									
	LITY	REDI	UNDANCY	SCREE	ens		CIL ITEN		
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NASA [/ IOA [3 /2] [R] [p]	[[P]	[[P]	[]	*
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* CIL RETENTIO	N RATIONAL	Æ: (If appl	icable.		DEQUATE DEQUATE	[[]	
REMARKS: RJDF2B F4/F5 M ASSESSMENT IDS	ANIFOLD DR FRCS 1115	IVER	SWITCH	I 15 R					SEE

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SUBSYSTIMDAC ID:	3	,	2	FRCS 1124 RJDF2	B L5	/F5/R	5 MA	NIFOL	D DR	IVER	ON :	s w]	[TC	ЭH	
LEAD ANA	LY	ST	:												
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	CR		ICAL LIGH	ITY	R	EDUND	ANCY	SCRE	ENS			CI			
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NASA IOA	[2	/2]	[]]]	[]		[x]	*
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REMARKS: RJDF2B F ASSESSME	4/1	F5	MAN:	IFOLD	DRIV	ER SW:	ITCH	15 R	E-AN	ALYZE	D BY	ľ	OA	. •	SEE
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LEAD ANA	LY	ST:	;																	
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		Fl	CAL	r				DUN	IDAN	CY		CREE	ENS	S C			CI	L EM		
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COMPARE	[N	/N	3		[N]	(N]		[N]		C]		
RECOMMEN	IDA'	TI	ons:		(If	d :	ifí	fere	ent	fr	om	NAS	5 A])						
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REMARKS: RJDF2B I ASSESSMI	74/	F5 I	MAN Ds F	IFO RCS	LD I	DR:	IVI 5X-	ER S	SWI?	rci	I 1	5 RI							S	EE

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SUBSYSTE MDAC ID: ITEM: CONTACTS		,		FRCS 1126 RJDF2	B L5	/F5/F	R5 MA	NIFOL	D DF	RIVER	OFF	SWI	тсн	
LEAD ANA	LY	ST	:											
ASSESSME	NT	:												
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		_		NC	A		В		c	•		ITE	M.	
NASA IOA	[3	/3]	[]]]	[]		[] '	k
COMPARE	[N	/N]	[]	[]	[]		[)	
RECOMMEN	'DA'	ri(ons:	(If	dif	feren	t fro	om NA	SA)					
	[/	1	[]	[]	[]	(AD	[D/DI		re)
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REMARKS: RJDF2B F ASSESSME	4/] NT	F5 I1	MAN: Ds Fi	IFOLD I	DRIV	ER SW -1115	ITCH 9X.	15 R					۸.	SEE

ASSESSME ASSESSME NASA FME	NT	ID		FRCS-1	.127						DATA: LINE NEW	Γ]
SUBSYSTE MDAC ID: ITEM: CONTACTS		4		FRCS 1127 RJDF2F	3 L5/	F5/R5	MAN	IFOLD	DRI	VER	OFF	SWIT	:CH
LEAD ANA	LYS	T:											
ASSESSME	NT:	}											
	CR1		CAL		RI	EDUND	ANCY	SCREE	NS			CIL	4
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NASA IOA	[3	/]	[]	[]	[]		[] *]
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	IDA'	ric	ons:	(If	dif	feren	t fr	om NAS	SA)				
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REMARKS RJDF2B	F4/	F5	MAN Ds I	IIFOLD FRCS 11	DRIV	ER SW -1115	ITCH	15 R	E-AN	ALY2	ED B	Y IO	A. SEE

ASSESSMI ASSESSMI NASA FMI	ENT	' I	D:	FRCS-	1128	3			1	NASA I BASEI		[]	
SUBSYSTI MDAC ID: ITEM: CONTACTS	3			FRCS 1128 RJDF2	B L5	/F5/F	R5 MA	NIFOI	D DI	RIVER	on s	WI	тсн	
LEAD ANA	LY	ST	:											
ASSESSME	ENT	:												
	CR		ICAL LIGH	ITY	R	EDUND	ANCY	SCRE	ENS			CI		
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NASA IOA	[2	/2]	[]	[]	[]		[]	,] ,]	*
COMPARE	[N	/N]	[]	[]	נ]		[]	1]	
RECOMMEN	DA:	ΓI	ons:	(If	dif	feren	t fr	om NA	SA)					
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* CIL RE	TEN	VT:	ION 1	RATIONA	ALE:	(If a	appl:	icabl	A	DEQUA' DEQUA'		[]	
RJDF2B F	4/I NT	75 II	MAN Os FI	FOLD I	RIVI L55X-	ER SW:	ITCH	15 RI	E-AN	ALYZE	о ву	IC	A.	SEE

ASSESSME ASSESSME NASA FME	NT	II		FRCS-1	112	9							ASA I BASEI		[]	
SUBSYSTE MDAC ID: ITEM: CONTACTS		, (FRCS 1129 RJDF21	3 I	5 5/	'F5/R	15 1	(A)	ΊF	OLD	DR:	IVER	ON	SWIT	СН	
LEAD ANA	LY	ST	:														
ASSESSME	NT	:															
		F	CAL LIGH V/FUI			RE A	EDUND	ANO	CY B	sc	REEN	rs C			CIL		
NASA IOA	[3	/ /2R]	[P]]	P]	(P]		[[]	*
COMPARE	[N	/N]	(N]	[N]	[N]		[]	
RECOMMEN	DA'	rI(ons:	(If	đi	if1	feren	nt :	fro	om	NASA	۲)					
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RJDF2B F	4/	F5 I	MAN Ds F	IFOLD RCS 11	DR:	IVI 5X-	ER SW -1115	VIT 59X	CH •	15	RE-	-AN	ALYZ]	ED E	BY IO	Α.	SEE

ASSESSMENT ID:	FRCS-11	30			BASE	TTME	_	-
NASA FMEA #:					DNOL		[]
MDAC ID:	FRCS 1130 RJDF2B 7, 8	L5/F5/F	15 MAI	NIFOLI	D DRIVER	OFF	SWI	гсн
LEAD ANALYST:								
ASSESSMENT:								
CRITICAL FLIGH		REDUND	ANCY	SCRE	ens		CIL	м
HDW/FU	NC	A	В		С			
NASA [/ IOA [3 /3] []	[]	[]		[] *
COMPARE [N /N] []	[]	[]		[3
RECOMMENDATIONS:	(If d	ifferen	t fro	om NAS	SA)			
[/] [1	Ί	3	[]	(AI	[DD/DI] ELETE)
* CIL RETENTION	RATIONAL	E: (If	appl:	icable	ADEQUA]
REMARKS: RJDF2B F4/F5 MAN ASSESSMENT IDS F	IFOLD DR	IVER SW	ITCH	15 RI	_		•	A. SEE

ASSESSMENT DATE: ASSESSMENT ID: FRCS-1131 NASA FMEA #: SUBSYSTEM: FRCS											DATA: LINE NEW	[]
SUBSYSTEM MDAC ID: ITEM: CONTACTS				1131 RJDF2E	3 L5/	'F5/R5	5 MAN	IIFOLI	DRI	VER	OFF	swii	гсн
LEAD ANA	LYS	ST:	:										
ASSESSME	NT:	:											
•	CR:		ICAL: LIGH		RE	EDUNDA	MCY	SCREE	ens			CIL	
	1		W/FU		A		В		С				-
NASA IOA	[3	/ /3]	[]	[]	[]		[] *]
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	DA!	ri	ons:	(If	difi	ferent	t fro	om NAS	SA)				
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RJDF2B F	EMARKS: JDF2B F4/F5 MANIFOLD DRIVER SWITCH 15 RE-ANALYZED BY IOA. SEE SSESSMENT IDs FRCS 11155X-11159X.												

ASSESSME NASA FME	NT	II) :	FRCS NONE					P		DATA LINE NEW	: [[]	
SUBSYSTEM MDAC ID:	M:			FRCS 1132 RJDF:	LB MA	NIF(OLD F1	TRI	CKLE	TEST	ı			
LEAD ANA	LYS	T:	:	D. H	ARTMA	N								
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(CRI		CAL LIGH		R	EDUì	NDANCY	SCR	EENS			CI IT		
	H		/FU	_	A		В		C	2			LM	
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COMPARE	[N	/N]	[1	[]	[]		[]	
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* CIL RET	PEN	ΤI	ON 1	RATION	TALE:	(If	f appli	cab	A	DEQU	ATE ATE	[]	
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VERIFY LOGIC OUTPUTS FROM VARYING A AND B PULSE COMMAND INPUTS. ASSOCIATED FAILURES HAVE BEEN CONSIDERED IN THE HARDWARE/EPD&C

ANALYSIS AND ASSESSMENT.

ASSESSME ASSESSME NASA FME	NT	ID	NONE								ASA D BASEL		-]	
SUBSYSTE MDAC ID: ITEM:				FRO 113 RJI	33	MAN	IFOLI) F2	TRICK	LE S	rest				
LEAD ANA	LYS	ST:		D.	HAR	TMAN									
ASSESSME	NT:	:													
	CR			YTI		RE	DUND	ANCY	SCREE	NS			CIL	4	
	FLIGHT HDW/FUNC							В	В		С				
NASA IOA]	3	/]		[]	[]	[]		[]	*
COMPARE	[N	/N]		[]	[]	[]		[)	
RECOMME	NDA'	TI	ONS:	:	(If	difi	feren	t fr	om NAS	SA)					
	(/]		C]	[3	[]	(A	[DD/D] ELE	TE)
* CIL R	ETE	NT	ION	RAT	ION	ALE:	(If	appl	icable		ADEQUA]	
THE THR VERIFY ASSOCIA	REMARKS: THE THREE RJDF TRICKLE TESTS IMPLEMENT A SOFTWARE ROUTINE TO VERIFY LOGIC OUTPUTS FROM VARYING A AND B PULSE COMMAND INPUTS. ASSOCIATED FAILURES HAVE BEEN CONSIDERED IN THE HARDWARE/EPD&C ANALYSIS AND ASSESSMENT.														

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1134 NASA FMEA #: NONE									1	NASA DA' BASELII NI]	
SUBSYSTE MDAC ID:				FRCS 1134 RJDF		ANIF	OLD F3	TR	ICKLE	TEST			
LEAD ANA	LY	ST	:	D. H	IARTMA	AN .							
ASSESSME	NT	:											
	CR		ICAL LIGH	ITY T	F	REDUI	NDANCY	SCF	REENS		CI:	_	
	1	HD	W/FU	NC	A	١	В		C	:	41	eari .	
NASA IOA]	3	/3]	[]	[]	[]]] ;	k
COMPARE	[N	/N]	[]	[]	[]	[]	
RECOMMEN	DA:	ri	ons:	(I	f dif	fere	ent fro	om N	ASA)				
	[/]	[]	[]	[[ADD/I] DELET	ľE)
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THE THREE	E F	MI	OF TH	RICKL	E TES	TS I	MPLEME	NT .	A SOF	TWARE R	OUTIN	E TO)

VERIFY LOGIC OUTPUTS FROM VARYING A AND B PULSE COMMAND INPUTS. ASSOCIATED FAILURES HAVE BEEN CONSIDERED IN THE HARDWARE/EPD&C

ANALYSIS AND ASSESSMENT.

NASA DATA:

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1135 NASA FMEA #: NONE										SA DA BASELI N		•]		
SUBSYSTEM MDAC ID:	M:			FRO 113 RJI	5	MAN	IFOLD	F4,	F5 T	RICE	KLE TE	est			
LEAD ANA	LYS	T:	}	D.	HAR	TMAN			•						
ASSESSME	NT:														
		CAL LIGH	ITY T		RE	EDUNDANCY SCREENS						CIL ITEM			
	HDW/FUNC							В		С					
NASA IOA	[/] [] [] [] 3 /3] [] []								[]	*			
COMPARE	[N	/N]		[]	[]	[]		[]	
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THE THRE VERIFY I ASSOCIAT	REMARKS: THE THREE RJDF TRICKLE TESTS IMPLEMENT A SOFTWARE ROUTINE TO VERIFY LOGIC OUTPUTS FROM VARYING A AND B PULSE COMMAND INPUTS ASSOCIATED FAILURES HAVE BEEN CONSIDERED IN THE HARDWARE/EPD&C ANALYSIS AND ASSESSMENT.														

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1136 03-2F-121	2	NASA DAT BASELIN NE] K]	
SUBSYSTEM: MDAC ID: ITEM: F3D, F2D, F4D	FRCS 1136			SENSOR, THRU	STERS	5 F1D,
LEAD ANALYST:	D. HARTMA	M				
ASSESSMENT:						
CRITICAL: FLIGHT HDW/FUI			ANCY SCRE	EENS C	CII	
		-	_			
NASA [3 /1R IOA [3 /2R] [P	,]	[P] [P]	[P] [P]	[[] *]
COMPARE [/N] []	[]	[]	[]
RECOMMENDATIONS:	(If dif	ferent	from NA	SA)		
[/] []	[]		[ADD/D] ELETE)
* CIL RETENTION F		(If a	applicabl	e) ADEQUATE INADEQUATE]
IOA AGREES WITH N	IASA FMEA.					

ASSESSMI ASSESSMI NASA FMI					RCS-1137 3-2F-121314 -1					NASA DATA: BASELINE [] NEW [X]]					
SUBSYSTEMDAC ID ITEM: F3D, F2	:	F4D		FR 11 CH	37	R	PI	RESSU	JRI	Ε (P	c) SI	ens	SOF	٤, !	THRUS	TE	RS	F1	LD,
LEAD AN	ALYS	T:		D.	HAR	TM	(A)	4												
ASSESSM	ENT:	:																		
	CR1	TIC					RI	EDUNI	IA C	ICY		SCREI	ENS	3				IL TEM	1	
	H	IDW/	'FUI	NC			A			E	3			С						
NASA IOA	[[3 / 3 /	'1R '2R]]	P P]		F	•]	[P P]]]	*
COMPARE	(/	'N]		[]	l]	[]		[]	
RECOMME	radn	CION	ıs:		(If	di	Ĺf	fere	nt	fr	0	m NAS	SA)							
	(/	•]		[]	1	•]	[3	(A)/DI		ETE)
* CIL R		TIC	N I	RAT	IONA	LE	E :	(If	ar	p)	. i	cable	-		-	UATE UATE	_]	

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FPCS-1138	314 -2	BAG	A DATA: SELINE [NEW [X]
	1138	PRESSURE (F	c) SENSOR,	THRUSTERS	F1F,
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
FLIGH'		EDUNDANCY B	SCREENS C	CIL I TEM	
NASA [3 /1R IOA [3 /2R] [P	[P] [P]	[] *]
COMPARE [/N] [] [] []	[]
RECOMMENDATIONS:	(If dif	ferent fro	m NASA)		
[/] [] [] []	[(ADD/DE] LETE
* CIL RETENTION DE REMARKS: IOA AGREES WITH DE REMARKS		(If appli		QUATE [QUATE []

ASSESSME ASSESSME NASA FME	NT ID:	EDCC-	'88 -1139 ?-12131	4 -1			DATA: ELINE (NEW ()	
SUBSYSTE MDAC ID: ITEM: F2F, F3F		FRCS 1139 CHAMI	BER PRE	SSURE	(Pc) :	SENSOR,	THRUSTERS	5 F1F,
LEAD ANA	LYST:	D. H	ARTMAN					
ASSESSME	NT:							
		ALITY	REI	OUNDAN	CY SCR	EENS	CI IT	
		GHT FUNC	A		В	С		
NASA IOA	[3 /	'1R] '2R]	[P]] [P] P]	[P] [P]	[] *
COMPARE	[/	'N]	[] []	[]	[]
RECOMMEN	IDATION	ıs: (I	f diff	erent	from N	(ASA)		
	[/	′]	C] []	[]		DELETE)
* CIL RI	ETENTIC	ON RATIO	NALE:	(If ap	plicab	ADE	QUATE [QUATE []
REMARKS	:							

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		10 21314 -2			A DATA: SELINE [NEW [x]
SUBSYSTEM: MDAC ID: ITEM: F3L, F2R, F4R	FRCS 1140			SENSOR,	THRUSTER	s F1L,
LEAD ANALYST:	D. HARTM	IAN				
ASSESSMENT:						
CRITICALI FLIGHT HDW/FUN	?	REDUNDAN A	ICY SCRE	eens C	CI IT	
NASA [3 /1R IOA [3 /2R] [P] [P]	[P] [P]	[] *
COMPARE [/N] [] [1	[]	[]
RECOMMENDATIONS:	(If di	fferent	from NA	SA)		
. [/] [) []	[]	[(A DD/1] DELETE
* CIL RETENTION R REMARKS: IOA AGREES WITH N			plicabl		UATE [UATE []

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1141 03-2F-1213	14 -1	NASA BASE	DATA: LINE [] NEW [X]
MDAC ID:	FRCS 1141 CHAMBER PR	ESSURE (P	c) SENSOR, T	HRUSTERS F1L,
LEAD ANALYST:	D. HARTMAN	Ī		
ASSESSMENT:				
CRITICAL FLIGH HDW/FU		DUNDANCY B	SCREENS C	CIL ITEM
NASA [3 /1R IOA [3 /2R] [P]] [P]] [P]	[] *
COMPARE [/N] [] [] []	[]
RECOMMENDATIONS:	(If diff	erent fro	om NASA)	
[/] [] [] []	[] (ADD/DELETE)
* CIL RETENTION :	RATIONALE:	(If appli		VATE []

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME	NT DATE NT ID: A #:	FRCS 03-2		4 -2			NASA DATA: BASELINE [] NEW [X]			
SUBSYSTE MDAC ID: ITEM: F2U, F3U	M:	FRCS				SENSOF	R, THRUS	STERS	S F1U,	
LEAD ANA	LYST:	D. H	ARTMAN							
ASSESSME	NT:									
	CRITICA: FLIG HDW/F	HT	RED A		Y SCR B	EENS C		CII		
NASA IOA	[3 /1] [3 /2]	R] R]	[P] [P]	[]	P] P]	[P [P]	[] *	
COMPARE	[/N]	[]	[]	[]	[]	
RECOMMEN	DATIONS	: (I	f diffe	rent f	rom N	ASA)				
	[/]	[]	[]	[] (2	[\DD/[] DELETE	
* CIL RE REMARKS: IOA AGRE			·	If app	licab	ÀI	DEQUATE DEQUATE	-]	

ASSESSMEN ASSESSMEN NASA FMEA SUBSYSTEN MDAC ID: ITEM:	NT A # M:	ID:	FR 03 FR	CS-1: -2F-: CS	143	L3:				°C)	SEN	1	BASE		[}	()	1U	,
F2U, F3U		T:	D.	HAR	TM	ΔN												
ASSESSME																		
		TICAL FLIGH	T			RE A	DUND	AN	CY B	SCI	REEN	is C			CII			
NASA IOA	[3 /1R 3 /2R]		[P P]	[P P]	[P]		[]	*	ť
COMPARE	[/N	3		[]	ĺ]	l		}		[]		
RECOMMEN	DAT	rions:		(If	di	ff	eren	ıt	fr	om I	NAS	A)						
	[/]		[]	(]	!	[3	(2	[ADD/	DEI		ſE)
* CIL RE		NTION	RAT	rion <i>a</i>	LΕ	:	(If	ap	pl	ica		P		UATE UATE	-	1))	

IOA AGREES WITH NASA FMEA.

	ENT ID:	: 1/29/88 FRCS-11 NONE					DATA: ELINE [NEW []
SUBSYSTE MDAC ID:	•	FRCS 1144 CHAMBER	R PI	RESSURE	(Pc) S	SENSOR,	THRUSTERS	F5L, F5R
LEAD ANA	ALYST:	D. HART	(AM	Ī				
ASSESSME	ENT:							
	FLIGH		RE	DUNDAN	CY SCRE	ENS	CIL ITE	
	HDW/FU	INC	A		В	С		
NASA IOA	[/ [3 /2F] [P] [p]	[] [P]	[] *]
COMPARE	[N /N] [N] [n j	[N]	[]
RECOMMEN	DATIONS:	(If d	liff	erent :	from NA	.SA)		
	[3 /2F] [P] [F]	[P]	[A (ADD/DI	
* CIL RE	TENTION	RATIONAL	E:	(If app	plicabl			
						ADEQU INADEQU	JATE (JATE (]
REMARKS: VERNIER FMEA. I PRIMARY	OA RECOM	mends th	EIR	INCLUS	SION IN	RS NOT A	ADDRESSED	BY A

SUBSYSTEM MANAGER STATED THAT THE SENSORS WERE PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THE FAILURE BE INCORPORATED INTO A FMEA.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11	45		NASA DATA: BASELINE NEW	r 1
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1145 CHAMBER	PRESSURE	(Pc) SENS	SOR, THRUST	ERS F5L, F5R
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
		REDUNDANC	Y SCREENS	5	CIL ITEM
FLIGH HDW/FU	NC	A	В	С	
NASA [/ IOA [3 /2R] [] [P] [P] [p]	[] *
COMPARE [N /N] [и][N] [N]	[]
RECOMMENDATIONS:	(If d	lifferent f	rom NASA)	
[3 /2F	١) [P] [F] [P] (AI	[A] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If app		ADEQUATE NADEQUATE	[]
REMARKS: VERNIER THRUSTEF FMEA. IOA RECOM PRIMARY SENSORS	MENDS TH	HEIR INCLUS	SION INTO	A FMEA.	SSED BY A NOTE:
SUBSYSTEM MANAGE VERNIER THRUSTER	ER STATED	THAT THE	SENSORS	WERE PART (SS, IOA RE	OF THE COMMENDS THE

FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1146 03-2F-121	315 -2	NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM: MDAC ID:	FRCS 1146 OX OR FU		SENSOR,	THRUSTER	S F1D				
LEAD ANALYST:	D. HARTMA	N							
ASSESSMENT:									
CRITICALI FLIGHT HDW/FUN			y screi B	ens C	CIL				
NASA [3 /1R IOA [3 /2R] [P] [P]	[P] [P]	[] *]			
COMPARE [/N] [] []	[]	[]			
RECOMMENDATIONS:	(If dif	ferent f	rom NAS	SA)					
[/] [] [1	[]	[(ADD/D				
* CIL RETENTION FREMARKS: IOA AGREES WITH N		(If app	licable	∍) ADEQU INADEQU	<u> </u>]			

ASSESSME ASSESSME NASA FME	TN	75	_		~~1	7	7 13	15 -	1					SA I	LIN	E	[x]	
SUBSYSTE MDAC ID: ITEM: F2D, F3I		F4 D		FRO 11 OX	A 7	FU	ı	NJEC	тоі	₹ 1	EMP	SEN	ısc	OR,	THR	US!	rera	5 F	'1D,
LEAD ANA	LYS	ST:		D.	HAR	TM	IAN	Ī											
ASSESSME	ENT	:																	
	CR		CAL				RE	DUND	AN	CY	SCRE	ENS	5				CIL ITE		
	3		JIGHT V/FUI				A			В			С						
NASA IOA	[3	/1R /2R]		[P P]	[P P]	[P P]			[[]	*
COMPARE	[/N]		[]	[]	[]			[]	
RECOMME	NDA	TIC	ons:		(If	d :	ifi	feren	nt	fr	om NA	ASA)						
	[/]		[]	[]	[]	((AC	[D/D		ETE)
* CIL R		NT:	ION :	RAI	TION	AL	E:	(If	ap	pl	icab			DEQU DEQU			[]	
REMARKS	•						_												

IOA AGREES WITH NASA FMEA.

ASSESSMENT DA ASSESSMENT II NASA FMEA #:		/88 -1148 F-121315	-2	NASA DA BASELI N		
SUBSYSTEM: MDAC ID: ITEM: F2F, F3F	FRCS 1148			SENSOR, TH	IRUSTERS I	71F
LEAD ANALYST:	D. H	ARTMAN				
ASSESSMENT:						
FI	CALITY IGHT /FUNC	REDUN A	DANCY SCR B		CIL ITEM	
	•		_	С		٠
	/1R] /2R]	[P] [P]	[P] [P]	[P] [P]	[] []	*
COMPARE [/N]	[]	[]	[]	[]	
RECOMMENDATIO	NS: (I1	f differe	nt from N	ASA)		
τ	/ 1	[]	[]	[]	[] (ADD/DELE	TE
* CIL RETENTI REMARKS: IOA AGREES WI			applicab;	le) ADEQUATI INADEQUATI		

ASSESSME ASSESSME NASA FME	NT NT A #	DATE: ID: :	1/29/ FRCS- 03-2F	88 1149 -121	315 -	ASA DAT BASELIN NE					
SUBSYSTE MDAC ID: ITEM: F2F, F3F			FRCS 1149 OX OR	FU	INJE(CTOR 1	remp :	SENSC	OR, THE	USTER	S F1F,
LEAD ANA	LYS	т:	D. HA	RTMA	N						
ASSESSME	NT:										
		FLIGH'	ITY T NC			DANCY B	SCRE	ENS C		CIL	
NASA		,]			[P]	[P]	[] *
IOA	Ĭ	3 /2R	j	[P]	[P]	[P]	[]
COMPARE	[/N	1	[]	[]	[]	C]
RECOMMEN	DAT	cions:	(If	dif	fere	nt fr	om NA	SA)			
	[/]	[]	[]	[]	[(ADD/D] ELETE)
* CIL RE		ITION	RATION	ALE:	(If	appl	icabl	A)	DEQUATI DEQUATI	E []
IOA AGRE		WITH	NASA F	MEA.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1150	15 -2	NASA DATA: BASELINE [] NEW [X]						
MDAC ID:	FRCS 1150 OX OR FU I	NJECTOR TEMP	SENSOR, THRU	STERS F1L					
LEAD ANALYST:	D. HARTMAN								
ASSESSMENT:									
CRITICALI FLIGHT HDW/FUN	ľ	DUNDANCY SCRE	ENS C	CIL ITEM					
NASA [3 /1R IOA [3 /2R] [P]] [P]] [P]	[P] [P]	[] *					
COMPARE [/N	1 [] []	[]	[]					
RECOMMENDATIONS:	(If diffe	erent from NA	SA)						
[/] [] []	[] (A)	[.DD/DELETE					
* CIL RETENTION FREMARKS: IOA AGREES WITH N		(If applicable	e) ADEQUATE INADEQUATE	[]					

ASSESSMENT ASSESSMENT NASA FMEA	r I	D:	•	FR	75-1	15	1 13	15 - 3	l.	NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM MDAC ID: ITEM: F3L, F2R,		IR		FRO 11! OX		FU	I	njec	гоі	R T	EMP S	EN	so	R,	THRU	ISTE	RS I	71L,
LEAD ANAL	YSI	r:		D.	HAR	TM	ΙAΝ	Ī										
ASSESSMEN	T:																	
C			CALI				RE	DUND	AN	CY	SCRE	ENS	3				L PEM	
			IGHT /FUN				A			В			С					
NASA IOA	[3 3	/1R /2R]		[P P]	[[P P]	[P P]		[]	*
COMPARE	[/N]		[]	[]	[]		[]	
RECOMMEN	TAC	ΊC	ns:		(If	d.	if:	ferer	nt	fr	om NA	SA)					
	[/]		[3	[]	[]	(DEI/	ETE)
* CIL RET	ΓEN	T	ON	RAT	CION	ΑL	E:	(If	aŗ	pl	icabl				UATE UATE]	Í
REMARKS:	ES	W]	ITH	NA	SA F	ME	Α.											

ASSESSMI ASSESSMI NASA FMI	ENT	, II):	1, F1 0:	/29/ RCS- 3-2F	88 11! -1:	52 21	315	-2	:					TA: NE [EW []		
SUBSYSTI MDAC ID: ITEM: F2U, F3U	:			11	RCS L52 (OR	FU	J	INJ	ECT	'OR	TEM	P SE	NSOR	, TH	RUSTE	RS	F1U,
LEAD ANA	LY	ST:		D.	HA	RTN	(A)	N									
ASSESSME	ENT	:															
		FI	CAL IGH /FUI	r			RI A		NDA		r sc	REEN	s C		CII	_	
NASA IOA]	3	/1R /2R]		[P P]		[I	?] ?]	[P] P]		[]]	*
COMPARE	[/N]		[]		[]	[]		[]	
RECOMMEN	DAT	PIO:	NS:		(If	di	ff	ere	nt	fr	om 1	NASA))				
	[•	/]		[]	ļ	[]	[3	([ADD/D] ELI	ETE)
* CIL RE	ren	TI	я ис	AT:	IONA	LE	:	(If	aŗ	pl	icak	ole)	ADEQ	UATE	ſ	1	
REMARKS: IOA AGREI	ES	WI:	rh n	AS	A FM	EA	•					IN	IADEQ			j	

ASSESSME ASSESSME NASA FME	NT I	D:	1/29/8 FRCS-1 03-2F-	1 5 2	15 -	1				TA: NE [EW [X	
SUBSYSTE MDAC ID: ITEM: F2U, F3U			FRCS 1153 OX OR	FU I	NJEC	TOR 1	remp s	ENS	OR, TH	RUSTER	s F1U,
LEAD ANA	LYSI	r:	D. HAF	(AMTS	ī						
ASSESSME	NT:										
	I	rical! FLIGHT	r	RE A	EDUNE	ANCY B	SCREE	ENS C		CIL	
	HI	OW/FUR	NC	A		Б		C			
NASA IOA	[3	3 /1R 3 /2R]	[P]]	[P [P]	[P]	[] *
COMPARE	[/N]	[]	[]	[]	[]
RECOMMEN	IDAT:	ions:	(If	dif	ferer	nt fr	om NAS	5A)			
	[/]	[]	[]	[1	[(ADD/D] ELETE)
* CIL RI		rion 1	RATION	ALE:	(If	appl	icable	A.	DEQUAT DEQUAT	-]
REMARKS	•										

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:		TA: NE [] EW []									
SUBSYSTEM: MDAC ID: ITEM: F5R	FRCS 1154 OX OR FU INJEC	54 OR FU INJECTOR TEMP SENSOR, THRUSTERS F5									
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICA FLIG		DANCY SCREENS	CIL ITEM								
	UNC A	В С	IIEM								
NASA [/ IOA [3 /2	R] [P]	[] [] [P]	[] *								
COMPARE [N /N] [N]	[N] [N]	[]								
RECOMMENDATIONS	: (If differen	at from NASA)									
[3 /2	R] [P]	[F] [P]	[A] (ADD/DELETE)								
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUATI	E []								
REMARKS:		INADEQUATI									
VERNIER THRUSTE FMEA. IOA RECO	MMENDS THEIR INC	PERATURE SENSORS NOT LUSION INTO A FMEA. -2F-121315-2 FMEA.	ADDRESSED BY A NOTE:								

SUBSYSTEM MANAGER STATED THAT THE SENSORS WERE PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THE FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1155 NONE		DATA: ELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM: F5R	FRCS 1155 OX OR FU INJ	ECTOR TEMP SENSOR	THRUSTERS F5L,
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL	LITY REDU	NDANCY SCREENS	CIL ITEM
FLIGH HDW/FU		в с	T 1 200
. nuw/r	,,,,,		r] *
NASA [/ IOA [3 /2]] [] R] [P]	[] [P]	[] *
COMPARE [N /N] [N]	[и] [и]	[]
RECOMMENDATIONS	: (If differ	cent from NASA)	
[3 /2	R] [P]	[F] [P]	[A] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (1101	EQUATE []
		EMPERATURE SENSORS INCLUSION INTO A 1 03-2F-121315-1 FI	S NOT ADDRESSED BY A FMEA. NOTE: MEA.

SUBSYSTEM MANAGER STATED THAT THE SENSORS WERE PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THE FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMI ASSESSMI NASA FMI	ENT	Ι	D:	F	'RCS-	-11	.56	; :15 ·	-1					N	IASA BASI	ELI	NE] []	
SUBSYSTI MDAC ID: ITEM:				1	RCS 156 RIVE	R,	Н	YBR	ID									•	-	
LEAD ANA	LY	ST	:	D	. на	RT	MA	N												
ASSESSME	ENT	:																		
		F	ICAL LIGH	T			R	EDUN	ND#	MC	Y	SCR	EEN	s				CIL ITE		
	ŀ	IDI	W/FU	NC			A				В			C			•	L 1 12.	M	
NASA IOA	[3	/2R /2R]		[P P]		[P P]]	P P]			[]	*
COMPARE	[/]		[]		[]	[3			[]	
RECOMMEN	DAT	'IC	ons:		(If	đi	fı	ere	nt	f	ro	m N	ASA)							
	[/]		[]		[]	[]	(] ADE)/DE] ELE	TE
* CIL RE	ren	TI	ON F	ras	IONA	LE	:	(If	a j	pp]	li	cab]		ΑD	EQU2	ATE	<u>[</u>]	
REMARKS:) EN	ĊΤ.											714	AL.	'EQUI	7 T.E.	L		J	

ASSESSMENT ASSESSMENT NASA FMEA	ID:	FRCS-11		5 -2				_	SA DATA: ASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1157 DRIVER,	нч	BRID							
LEAD ANALY	ST:	D. HARTI	MAN								
ASSESSMENT	:										
CR	ITICAL		RE	DUNDAN	CY	SCR	REENS	;		CIL	
	FLIGHT HDW/FUI		A		В			С		1111	•
NASA [IOA [3 /3 3 /2R] [] [P] [P]	[P]	[] *]
COMPARE [/N] [N] [N]	[N]	(1
RECOMMENDA	TIONS:	(If d	iff	erent	fr	om N	IASA)				
[3 /2R) [P] [P]	[P] (A	[DD/D] ELETE)
* CIL RETE	INTION :	RATIONAL	E:	(If ap	pl	icak			EQUATE	[]
REMARKS: INABILITY DUE TO ORE	TO TUR	N HEATER OINTING	OF DEF	FF MAY EP SPAC	CA E	USE FOR	LOSS	S (OF MISSI NG.	ON O	BJECTIVES

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1158			NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1158 DRIVER, H	HYBRID			
LEAD ANALYST:	D. HARTMA	AN			
ASSESSMENT:					
CRITICAL: FLIGHT	_	REDUNDAN	CY SCRE	ENS	CIL ITEM
HDW/FU	NC A	4	В	С	
NASA [3 /2R IOA [3 /2R] [F	?][P] P]	[P] [P]	[] *
COMPARE [/] [] []	[]	[]
RECOMMENDATIONS:	(If dif	fferent :	from NA	SA)	
[/] [] []		[] ADD/DELETE
* CIL RETENTION FREMARKS: NO DIFFERENCES.	RATIONALE:	(If app	plicabl	e) ADEQUATE INADEQUATE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-115	9 215 - 2		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1159 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTN	1AN			
ASSESSMENT:					
CRITICAL		REDUNDANC	Y SCREEN	S	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /3 IOA [3 /2R] [] [P] [] [P] [P]	[] *
COMPARE [/N] [N] [и] [N]	[]
RECOMMENDATIONS:	(If d	ifferent f	rom NASA	7)	
[3 /2F	١ [P] [P] [[P] (A	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If app		ADEQUATE NADEQUATE	[]
REMARKS: INABILITY TO TU DUE TO ORBITER	RN HEATEF POINTING	OFF MAY.	CAUSE LOS E FOR CO	SS OF MISSI OLING.	ON OBJECTIVES
ISSUE NOT RESOL	VED AT TE	HE MEETING	WITH TH	E SUBSYSTEM	MANAGER ON

1/20/88.

ASSESSM ASSESSM NASA FM								15	-1					N	JASA D BASEL		[x 1	
SUBSYST: MDAC ID ITEM:	EM:			F1	RCS 160 RIVE												•		
LEAD AND	ALY	ST	:	D.	. HAI	RT:	MA	N											
ASSESSMI	ENT	:																	
	CR		ICAL LIGH		?		R	EDU	JNDA	MC	CY	sc	REEN	s			CI	_	
	1		W/FU				A				В			С			IT:	EM	
NASA IOA	[[3 3	/2R /2R]]	P P]]	P P]]	P P]		[]	*
COMPARE	[/]		ĺ]		[]	[]		[]	
RECOMMEN	DA:	ric	ONS:		(If	di	fí	er	ent	f	rc	m]	NASA j)					
	[/]		[J		[]	[]	(AD	[D/[ETE J
* CIL RE	TEN	ľŢĮ	ои в	TAS	IONA	LE	:	(I	f a	pp	li	cal			EQUAT		[]	
REMARKS: NO DIFFE	REN	CE	s.										11	IAL	EQUAT	Ľ	Ī]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1161 05-6KF-22	15 -2		NASA DATA: BASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1161 DRIVER, H	IYBRID				
LEAD ANALYST:	D. HARTMA	M				
ASSESSMENT:						
CRITICAL		REDUNDAN	CY SCREEN	is	CIL ITEM	1
FLIGH HDW/FU		A	В	С		
NASA [3 /3 IOA [3 /2F] [] [P] [P]	[] [P]	[] *]
COMPARE [/N	j [1	N] [[N]	[и]	ĺ]
RECOMMENDATIONS:	(If di	fferent	from NAS	A)		
[3 /2]	e] []	P] [[P]	[P] (A	[.D D /D] ELETE)
* CIL RETENTION	RATIONALE	: (If an	pplicable) ADEQUATE INADEQUATE]
REMARKS:	ON UPAMPD	OFF MAV	CAUSE LO	SS OF MISSI	ON O	BJECTIVE

INABILITY TO TURN HEATER OFF MAY CAUSE LOSS OF MISSION OBJECTIVES DUE TO ORBITER POINTING DEEP SPACE FOR COOLING.

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSM ASSESSM NASA FM	ENT	'I	D:		F	RCS-	-11	62	15	-1								SEL	ATA INI NEV		x]	
SUBSYST					11	RCS L62 RIVE	R,	н	YB	RID													
LEAD AN	ALY	ST	:		D.	НА	RT	MA	N														
ASSESSMI	ENT	:																					
		F	LI	GH:		?			EDŪ	UNDA	ANO		sc	CREE	NS	5				C]	IL PEM		
		HD	W/]	rui	4C			A				В				C							
NASA IOA	[3	12	2R 2R]		[P P]		[P P]		[[P P]			[]	*
COMPARE	[/]		[]		[]		[]			[]	
RECOMMEN	DA'	ric	ONS	5:		(If	đ	ifi	fer	ent	: f	rc	m	NAS	A)								
	[/]		[]		[]	ا	[]		(A)	[DD/	DE		TE)
* CIL RE	TEN	TI	CON	R	AT:	IONA	LE	Ξ:	(I	fa	pp	li	cal	ble)									
DEM DAG]				TAU TAU		[[] !	
REMARKS: NO DIFFE	REN	ICE	ES.														-	_	-		_	ı	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-116	3 215 - 2	1	NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1163 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDANC	Y SCREENS		CIL ITEM
HDW/FU	_	A	В	С	
NASA [3 /3 IOA [3 /2R] [P] [] [P] [] P]	[] *
COMPARE [/N] [и] [и] [!	N]	[]
RECOMMENDATIONS:	(If di	fferent f	rom NASA)		
[3 /2R] [P] [P] [P]	[] DD/DELETE)
* CIL RETENTION	RATIONALE	: (If app		ADEQUATE ADEQUATE	
REMARKS: INABILITY TO TUR DUE TO ORBITER P					ON OBJECTIVES

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME ASSESSME NASA FME	NT	ID:	FR	29/88 CS-11 -6KF-	64	15 -	-1					ASA DA BASELI N		[x]	
SUBSYSTE MDAC ID:	M:		FRO 110 DR		H	YBRI	.D										
LEAD ANA	LYS	T:	D.	HART	MA	N											
ASSESSME	NT:																
		TICAL FLIGH			R	EDUN	IDAN O	Y	SCI	REEN	S			CI		,	
		DW/FU	_		A			В			С			11	EM	L	
NASA IOA	[3 /2R 3 /2R]]	P P]]	P P]	[P P]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAT	ions:	((If d	if	fere	nt f	r	om N	IASA)						
	[/]	[]	£]	ſ		1	(AI	[DD/	DE] LE	TE
* CIL RE	TEN'	TION	RATI	CONAL	E:	(If	app	1 i	icak			DEQUAT DEQUAT		[]	

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS-	116	5 21	.5 - 2	2				_		ATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1165 DRIVE	R,	НУ	BRII)									
LEAD ANA	LYST	:	D. HA	RTM	IAN	ī										
ASSESSME	NT:															
		ICAL LIGH	ΙΤΥ		RE	EDUNI	DANC	CY	sc	REENS	3			CII		
	_	W/FU			A			В			С					
NASA IOA	[3	/3 /2R]]	P]	[P]]	P]		[]	*
COMPARE	[/N]	[N]	[N]	[N]		[]	
RECOMMEN	DATI	ons:	(If	di.	fi	fere	nt i	fro	om	nasa))					
	[3	/2R	1	[P]	[P].	[P)	(A	[DD/I] DELE	ETE)
* CIL RE	TENT	ION	RATION	IALI	Ξ:	(If	apı	pl:	ica		IA IAN	DEQUA	ATE ATE	[]	
REMARKS: INABILIT DUE TO C	Y TO	TUR ER F	N HEAT	rer 1g i	01 DE1	FF M EP S	AY (PAC)	CAI E	USE FOR	LOS	S (OF M	ISSI	ои (OBJE	ECTIVES

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEI ASSESSMEI NASA FME	NT I	D:		1166		1			ASA DATA BASELINE NEW]
SUBSYSTEM MDAC ID:	M:		FRCS 1166 DRIVE	R, I	HYBRI	D					
LEAD ANA	LYST	:	D. HA	RTM2	/N						
ASSESSME	NT:										
Ć	F	ICALI LIGHT W/FUN	r	F		DANC		EENS C		CIL	
NASA				[I	ן פ	ſI	? 1	_	1	ſ	1 *
IOA	[3	/2R]	Ē	• j	į	P j	[P	j	[j
COMPARE	[/]	[]	[]	[]	ľ]
RECOMMEN	OATIO	ons:	(If	dif	fere	nt fi	om N	ASA)			
	[/]	[] .	[J	[] (A	[DD/D] ELETE)
* CIL RET	TENT	ION F	RATION	ALE:	(If	app]	icab.	ΑI	EQUATE EQUATE	[]

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-116	CCS-1167 S-6KF-2215 -2 NEW [X]										
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1167 DRIVER,	HYBRID										
LEAD ANALYST:	D. HARTM	IAN										
ASSESSMENT:												
CRITICAL		REDUNDANC	CY SCREEN	S	CIL ITEM							
FLIGH HDW/FU		A	В	С								
NASA [3 /3 IOA [3 /2R] [p] [] [P] [P]	[] *							
COMPARE [/N	_		и] [[и]	[]							
RECOMMENDATIONS:	(If d	ifferent :	from NASA	A)								
[3 /2F	?] [P] [P]	[P] (A	[] ADD/DELETE)							
* CIL RETENTION	RATIONAL	E: (If ap) ADEQUATE INADEQUATE	[]							
REMARKS: INABILITY TO TUI DUE TO ORBITER	RN HEATER POINTING	OFF MAY DEEP SPAC	CAUSE LOS	SS OF MISSI OLING.	ON OBJECTIVE	ES						

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSM	ENT	'I	D:										ASA D BASEL	INE	[] X]			
SUBSYST MDAC ID ITEM:				11	RCS L68 RIVE	R,	н	YB:	RID										
LEAD AN	ALY	ST	:	D.	HA	RT	MA	N											
ASSESSMI	ENT	:																	
		F	ICAL LIGH	T			R	EDI	JNDA	NC	Y	SC	REEN	S			CI:	_	
	1	HD	W/FU	NC			A				В			C			111	EM.	
NASA IOA	[3	/2R /2R]		[P P]		[[P P]	[P P]		[]	*
COMPARE	[/]		[]		[]	ι]		ξ]	
RECOMMEN	DA'	CIC	ONS:		(If	đi	ifi	fer	ent	f	ro	m l	NASA))					
	[/]		[]		[]	[]	(AI	[DD/E] DELE	TE
* CIL RE	TEN	ITI	ON I	TAS	IONA	LE	E :	(I	fap	gp.	li	cak	ole)						
															EQUAT EQUAT		[]	
REMARKS: NO DIFFE	REN	ICE	s.												-2011		L	1	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-116 05-6KF-2	9 215 - 2	NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1169 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL		REDUNDANC	Y SCREEN	S	CIL TTEM
FLIGH HDW/FU	С	11211			
NASA [3 /3 IOA [3 /2]] [] [P] [] [P] [P]	[] *
COMPARE [/N] [и][и] [и]	[]
RECOMMENDATIONS	(If d	ifferent i	from NASA	۷)	
[3 /2	R] [P] [P] ([P] (A	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ap) ADEQUATE INADEQUATE	[]
REMARKS: INABILITY TO TU DUE TO ORBITER	RN HEATER POINTING	OFF MAY DEEP SPAC	CAUSE LOS E FOR CO	SS OF MISSI	ON OBJECTIVES

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	D I #:	ATE: D:	1, F: 0.	1/29/88 FRCS-1170 05-6KF-2215 -1								NASA DATA: BASELINE [] NEW [X]							
SUBSYSTI MDAC ID: ITEM:	EM:			F)	RCS 170 RIVE														-	
LEAD ANA	LY	ST	:	D.	. на	RT	MA	N												
ASSESSME	NT:	:																		
	CR		ICAL LIGH		<u>r</u>		R	EDU	JNDA	N	CY	sc	REEN	IS				CIL	u r	
	ŀ	IDI	/FU	NC			A				В			С			•	ITE	71	
NASA IOA	[[3	/2R /2R]]	P P]		[P P]	[P P]		ĺ	[]	*
COMPARE	[/]		[]		[]	ι]		1	[]	
RECOMMEN	DAI	'IC	NS:		(If	đ:	ifi	fer	ent	f	ro	m	NASA)						
	[/)		[]		[]	[]	(/ D/DE] LE	TE
* CIL RE	ren	TI	ON F	TAS	IONA	ALE	E :	(I	f a	pp	li	cal				JATE JATE]	
REMARKS: NO DIFFE	REN	CE	s.													_	L			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1171										
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1171 DRIVER, I	HYBRID									
LEAD ANALYST:	D. HARTM	AN									
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C											
HDW/FU	С										
NASA [3 /3 IOA [3 /2R] [] [P] [P]	[] *							
COMPARE [/N] []	и] [и][и]	[]						
RECOMMENDATIONS:	(If di	fferent f	rom NASA)								
[3 /2R	[P] [P] [P] (Al	[] OD/DELETE)						
* CIL RETENTION	RATIONALE	: (If app		ADEQUATE IADEQUATE							
REMARKS: INABILITY TO TUR DUE TO ORBITER F	N HEATER O	OFF MAY C EEP SPACE	AUSE LOSS FOR COOI	OF MISSICLING.	ON OBJECTIVES						

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1172 DRIVER, HYBRI	D		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICALI FLIGHT		DANCY SCREENS	}	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [3 /2R IOA [3 /2R] [P]] [P]	[P] [[P] [P] P]	[] *
COMPARE [/] []	[3168H] []	[]
RECOMMENDATIONS:	(If differe	nt from NASA)		
1] []	[] [[] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If		ADEQUATE ADEQUATE	[]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1173 05-6KF-2215 -2	NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1173 DRIVER, HYBRID		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL		NCY SCREENS	CIL ITEM
FLIGH HDW/FU		ВС	
NASA [3 /3 IOA [3 /2R	[] [P]	[] [] [P] [P]	[] *
COMPARE [/N] [N]	[и] [и]	[]
RECOMMENDATIONS:	(If different	t from NASA)	
[3 /2	R] [P]	[P] [P] (A	[] DD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUATE INADEQUATE	[]

INABILITY TO TURN HEATER OFF MAY CAUSE LOSS OF MISSION OBJECTIVES REMARKS: DUE TO ORBITER POINTING DEEP SPACE FOR COOLING.

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

					1/29/88 FRCS-1174 05-6KF-2215 -1							NASA DATA: BASELINE [] NEW [X]								
SUBSYST MDAC ID ITEM:	EM:			F)	RCS 174 RIVE															
LEAD AN	ALY	ST	:	D	. на	RT	MA	N												
ASSESSM	ENT	:																		
	CR		ICAL LIGH		Ž.		R	EDU	JNDA	NC	CY	sc	REEN	s				CII		
			W/FU				A				В			С				ITE	EM	
NASA IOA	[[3	/2R /2R]		[P P]]	P P]]	P P]			[[]	*
COMPARE	[/]		[J		[)	[]			[J	
RECOMMEN	IDA'	ric	ONS:		(If	di	Ĺfí	er	ent	f	ro	m I	NASA))						
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* CIL RE	TEN	ΙΤΊ	ON I	TAS	IONA	LE	E:	(I	f ap	gg	li	cal			EQU <i>I</i> EQU <i>I</i>]	
NO DIFFE	REN	ICE	s.																	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-117 05-6KF-2		NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1175 DRIVER,	HYBRID								
LEAD ANALYST:	D. HARTM	AN								
ASSESSMENT:										
CRITICAL FLIGH		REDUNDAN	CY SCREEN	NS	CIL ITEM					
HDW/FU		A	В	С						
NASA [3 /3 IOA [3 /2R] [P] [] P]	[] [P]	[] *					
COMPARE [/N] [и ј [N]	[N]	[]					
RECOMMENDATIONS:	(If di	fferent	from NAS	A)						
[3 /2R] [P] [P]	[P] (A)	[] DD/DELETE)					
* CIL RETENTION	RATIONALE	: (If ap) ADEQUATE INADEQUATE	[]					
REMARKS: INABILITY&a1290R DUE TO ORBITER P	WOHEATER OINTING I	OFF MAY DEEP SPAC	CAUSE LO	SS OF MISSIOLING.	ON OBJECTIVES					

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME	SSESSMENT DATE: 1/29/88 SSESSMENT ID: FRCS-1176 ASA FMEA #: 05-6KF-2215 -:									NASA DATA: BASELINE [] -1 NEW [X]							
SUBSYSTE MDAC ID: ITEM:			FRCS 1176 DRIVE														
LEAD ANA	LYS	T:	D. HA	RTI	AN	N											
ASSESSME	NT:																
		TICAL: FLIGHT	r		RI A		DANC	CY B	SCI	REEN	s c			CII			
NASA IOA		-]]	P P]	[P P]	[P P]		[]	*	
COMPARE	[/	1	[]	[]	[]		[]		
RECOMMEN	DAT	ions:	(If	đi	fi	fere	nt f	ro	om N	IASA))						
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* CIL RE	TEN'	TION F	RATION	ALE	:	(If	app	11	cab			EQUATI]]		

ASSESSMEN ASSESSMEN NASA FME	2						ATA: LINE NEW	[x]								
SUBSYSTEM MDAC ID:			FRCS 1177 DRIV		нч	BRI	D										
LEAD ANA	LYST	:	р. н	ARTM	AN												
ASSESSME	NT:																
			ITY		RE	DUN	DANC	Y	SC	REENS	3			CI	L EM		
FLIGHT HDW/FUNC A B C																	
NASA IOA	[3	/3 /2R]	[[P]	[P]]	P]		[]	*	
COMPARE	£	/N)	[N]	[N]	[N]		[]		
RECOMMEN	DATI	ons:	(I	f di	.ff	ere	ent i	fr	om i	nasa))						
	[3	/2R]	[P]	[P]	[P]	(A		DEL	ETE)	
* CIL RE	TENT	NOI	RATIC	NALE	E:	(If	f apı	, 1	ica			DEQUA		[]		
REMARKS: INABILIT DUE TO O										LOS			ISSI	ON	OBJ	ECTIVE	s

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME ASSESSME NASA FME	NT	ID:	FRC	s-11		5 -1				NASA D BASEL	INE		
SUBSYSTE MDAC ID:			FRC 117 DRI		нұі	BRID							
LEAD ANA	LYS	T:	D. 3	HARTI	NAN								
ASSESSME	NT:												
		TICAL:			REI	DUND	ANCY	SCR	EENS			CII	
		DW/FUI			A		E	3		С		111	ZM
NASA IOA	[3 /2R 3 /2R]	[[P P		[F)]	[P] P]	•	[] *
COMPARE	[/]	[]	[]	[3		[]
RECOMMEN	DAT:	ions:	(:	If di	iffe	eren	t fr	om N	ASA)				
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* CIL RE	TEN'	TION P	RATI	ONALE	E: ((If a	appl	icab		ADEQUA'		[]
DEMARKS.									T 14	いったべいか。	LE	L]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1179		NASA DATA: BASELINE (NEW (
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1179 DRIVER, HYBE	RID		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL		INDANCY SCREENS		CIL ITEM
FLIGH HDW/FU		В	c	
NASA [3 /3 IOA [3 /2R] []] [P]	[] [[P]] P]	[] *
COMPARE [/N] [N]	[и]	n j	[]
RECOMMENDATIONS:	(If diffe:	rent from NASA)		
[3 /2R	[P]	[P] [P] (AD	[] D/DELETE)
* CIL RETENTION	RATIONALE: (ADEQUATE ADEQUATE	[]
REMARKS: INABILITY TO TUR DUE TO ORBITER P	RN HEATER OFF POINTING DEEP	MAY CAUSE LOSS SPACE FOR COOL	OF MISSIO	N OBJECTIVES
ISSUE NOT RESOLV	ED AT THE ME	ETING WITH THE	SUBSYSTEM	MANAGER ON

1/20/88.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1180 NASA FMEA #: 05-6KF-20								13	-1						ASA DA BASEL:		[x]	
SUBSYSTI MDAC ID ITEM:				11	RCS 180 JSE,	2	0 A													
LEAD AND	ALY	ST	:	D.	HA	RT	MA:	N												
ASSESSMI	ASSESSMENT:																			
	CRITICALITY FLIGHT HDW/FUNC								JNDA	ANO	CY	SCI	REEN	s			CI TT	L EM	•	
											В			С					•	
NASA IOA	[3	/2F /2F	?] ?]		[P P]		[P P]	[P P]		[]	*
COMPARE	[/]		[]		[]	[]		[]	
RECOMMEN	IDA!	ΓΙ	ONS:		(If	d:	if	fer	ent	: f	fro	om 1	NASA))						
	(/]		[]		[]	[]	(AD	[D/:	DE:] LE	TE
* CIL RE REMARKS: NO DIFFE				RAT	IONA	ALF	€:	(1	∷f a	pp)li	cak	•		DEQUAT DEQUAT		[]	

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1181 NASA FMEA #: 05-6KF-2013 - SUBSYSTEM: FRCS								-1							DAT ELIN NE	E		_		
SUBSYSTE MDAC ID: ITEM:	M:			11		20	λ													
LEAD ANA	LYS	ST	:	D.	HAI	RTI	(A)	1												
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS																				
			RI	EDU	NDA	NC.	Y	SCF	REEN	S				CII						
FLIGHT HDW/FUNC A										:	В			С						
NASA IOA	[3	/2F /2F	R]		[P P]		[P P]]	P P]			[]	*
COMPARE	[/]		[]		[]	[]			[]	
RECOMMEN	'DA'	ri(ons:	:	(If	d :	if	fer	ent	: f	ro	om l	NASA)						
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REMARKS:		NC:	ES.																	

ASSESSME ASSESSME NASA FME	NT :	ID:	FRCS-	118	2 013 -	1			SA DATA ASELINE NEW		x]
SUBSYSTEM MDAC ID:			FRCS 1182 FUSE,	202	A						
LEAD ANA	LYS	r:	D. HA	RTM	AN						
ASSESSME	NT:										
(1	FICALI FLIGHT DW/FUR	r	1		DANCY P		REENS		CII	
			•	_	_	_					
NASA IOA		3 /2R 3 /2R]	[]	P]	[P	'] ']	[P [P]]	[] *
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ASSESSME	SSESSMENT DATE: 1/29/ SSESSMENT ID: FRCS- ASA FMEA #: 05-6F													SA I	LINE	E	[x]	
SUBSYSTEM MDAC ID:	M:			11		20	A												
LEAD ANA	LYS	T:		D.	HAR	T	IAN	Ī											
ASSESSME	NT:	;																	
	CRI		CAL				RI	DUNE	AN	ICY	SCR	EEN	s				CIL ITEN	M	
	ŀ		LIGH'				A			В			С						
NASA IOA	[3	/2R /2R]		[P P]	(P]]	P P]			[]	*
COMPARE	ſ		/]		[]	-]	[]			ſ]	
RECOMMEN	IDA'	TI:	ons:		(If	d	if	fere	nt	fr	om N	NASA	.)						
	[/]		[]		[]	(]	(ΆΙ	[DD/D	ELJ	ETE)
* CIL RI		NT	ION	RA!	rion.	ΑL	E:	(If	a	ppl	ical		•	DEQI			[]	
REMARKS	:																		

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SUBSYST MDAC ID ITEM:				1:	RCS 184 JSE,	2	0A									•	•	
LEAD AN	ALY	ST	:	D.	НА	RT	MA	N										
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1185 FUSE,	20A										
LEAD ANALYST:	D. HA	RTMAN	Ī									
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS												
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ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1186 NASA FMEA #: 05-6KF-2013 -									-1						ASA DA BASELI N		[x]	
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ASSESSME	ENT	:																		
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LEAD ANALYST:	D. HART	MAM							
ASSESSMENT:									
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LEAD AN	ALYST	!:	D. H2	ARTI	MAN							
ASSESSM	ENT:											
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1191 FUSE, 1A				
LEAD ANALYST:	D. HARTMA	Ŋ			
ASSESSMENT:					
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1192 FUSE, 7.9	5 A										
LEAD ANALYST:	D. HARTM	AN										
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LEAD ANA	LYS	ST	:	D.	HAR	T	(A)	ſ													
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D. HARTMAN							
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IOA AGREES WITH NASA FMEA.

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LEAD ANA	LY	ST	:	D.	HAR!	ГМА	N													
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REMARKS: NO DIFFI INCORREC	ERE											SE L	IS!	red	AB	OV:	E]	s		

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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1196	7.5A									
LEAD ANALYST:	D. H2	ARTMAN									
ASSESSMENT:											
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SUBSYSTEMDAC ID:	M:		FRCS 1197 HEATE	R 90	OW, A	& B	OX LW	R HT	R PNL 3						
LEAD ANA	LYST:	:	D. HA	RTM	AN										
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1199 HEATER 90V	V, A & B (OX LWR I	HTR PNL 1						
LEAD ANALYST:	D. HARTMAN	1								
ASSESSMENT:										
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LEAD ANA	LYS'	T:	D. HA	RTM	AN						
ASSESSME	NT:										
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		340 -2	NASA DATA: BASELINE [] -2 NEW [X]								
	FRCS 1202 HEATER 90	W, A &	B OX FWI	O HTR PNL 4							
LEAD ANALYST:	D. HARTMAI	N									
ASSESSMENT:											
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LEAD ANA	LYST	:	D. HAI	RTM	AN								
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SUBSYSTEM MDAC ID:	:	FRCS 1204 HEATER	R 901	W, A	& B	OX LW	R HI	R PNL 2		- ,
LEAD ANAL	YST:	D. HAF	RTMA	N						
ASSESSMEN	T:									
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ASSESSME	NT:										
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LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
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LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
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LEAD ANALYST:	D. HARTMAN							
ASSESSMENT:								
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LEAD ANALYST	: D. I	IARTMAN				
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SUBSYSTEM: MDAC ID: ITEM:		FRCS 1220 RELAY								
LEAD ANALYS	T:	D. HART	'MAI	N						
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LEAD ANALYST:	D. HARTMAN				
ASSESSMENT:					
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88

(SHORT FAILURE MODE TO BE REMOVED).

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ISSUE RE (SHORT F	SOI AII	LUF	ED A	T ME	ETING TO BE	WITH REMO	SUBSY	STI	em mana	GEF	? ON 1	./20)/88	

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LEAD ANALYST:	D. HARTM	IAN							
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

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NO DIFFERENCES.

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SUBSYSTEMDAC ID				FRCS 1246			.K 1/4						
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ASSESSMI	ENT	:											
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88

(SHORT FAILURE MODE TO BE REMOVED).

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RECOMME	NDA	TI	ons:		(If	d.	if	ferei	nt	fr	om 1	NASA)						
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REMARKS RCS/OMS ASSESSM	FC ENI	RW	ARD Ds	HEA FRCS	ATER 5 11	S 18	WI 5X	TCH -111	S3 89)	RE	-AN	ALY2	ED	B:	Y 10	Α.	SEE	2	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1248		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1248 SWITCH, TOGGLE	RCS/OMS HI	EATERS FWD	RCS
LEAD ANALYST:				
ASSESSMENT:				
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RECOMMENDATIONS:	(If different	from NASA)	
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COMPARE [[N /N] []	N]	[N]	[N]	[]
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SUBSYST MDAC ID ITEM: CONTACT:	:		2	FRO 125 MAN	52	1,	JETS :	HEAT!	ER CC	NTROL S	WITCH	ON
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1259 MANIFOLD	2, JEI	s HE	EATER	CONT	ROL SWI	гсн	
LEAD ANALYST:								
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CRITICAL		EDUND#	MCY	SCREE	ns		CIL ITEN	Л
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IOA. SEE ASSESSMENT IDS 11165X-11169X.

ASSESSMENT DATE:				N	ASA DATA	.:	
ASSESSMENT ID: NASA FMEA #:	FRCS-1262				BASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 3, 4	FRCS 1262 MANIFOLD	2, JETS	HEATE	R CON	TROL SWI	тсн	OFF
LEAD ANALYST:							
ASSESSMENT:							
CRITICAL FLIGH		EDUNDAN	CY SCR	EENS		CIL	
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FORWARD MANIFOLD IOA. SEE ASSESS				SWITC	H 15 RE-	ANAL	YZED BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1263				DATA: SELINE NEW		
MDAC ID:	FRCS 1263 MANIFOLD 2	2, JETS	HEATER	CONTRO	OL SWIT	CH OFF	
LEAD ANALYST:							
ASSESSMENT:							
CRITICAL: FLIGH		EDUNDANC	CY SCREI	ens		CIL ITEM	
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SUBSYST: MDAC ID ITEM:				FRCS 1264 SWITC	н,	T	OGGLE	E F	cs	/ON	MS H	ΙΕ	AT:	ERS	FWD	RCS	JET 2	
LEAD AN	ALY	ST	:															
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-12	265				ASA DA BASELI N	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1265 SWITCH	, TOGG	LE RCS	o m s	HEAT!	ers fv	ND RCS JET 2
LEAD ANALYST:							
ASSESSMENT:							
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SUBSYST MDAC ID ITEM:		•		FRCS 1266 MANII	FOI	ďD	3,	JET:	5 F	· EAT	ER C	ON	TRO	L SW	'ITCH	[
LEAD AN	ALY	SI	: :														
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REMARKS:											IN	AD	EQU	ATE ATE	j]	
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SUBSYSTIMDAC ID:				FRCS 1267 MANIFO	DLD 3	s, JET	гѕ ні	EATER	CON	ITROL	SWIT	сн	
LEAD AND	ALY	ST	;										
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LEAD AN	AL	Ϋ́	ST	:									
ASSESSMI	EN	T	:										
	C	R.		ICAL LIGH	ITY	R	EDUNDA	ANCY	SCRE	ENS		CIL ITEM	
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LEAD ANA	LY	ST	•															
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SUBSYSTEM MDAC ID: ITEM: CONTACTS		FRCS 1270 MANIFO)LD :	3, JE	rs HI	EATER	CON	TROL SW	ІТСН	OFF
LEAD ANAI	LYST:									
ASSESSMEN	NT:									
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COMPARE	[]	N /N]	[]	4]	[N)	[]	1]		[J	
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SUBSYSTEM MDAC ID:	[:			FRO 127 SWI		TOGGI	E RC	s/oms	неат	ERS F	WD R	cs i	JET 3	
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NASA IOA	[2	//2]	[]]]]	[]		[x] *	
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1274 MANIFOL	D 4, JETS	HEATER CO	NTROL SWI	ТСН
LEAD ANALYST:					
ASSESSMENT:					
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ASSESSME ASSESSME NASA FME	NT	II		FRCS-	1275				N	IASA D BASEI		[]	
SUBSYSTE MDAC ID:				FRCS 1275 MANIF	OLD 4	4, JE	TS H	EATER	CON	TROL	SWIT	rch	I		
LEAD ANA	LYS	ST	:												
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MDAC ID:	FRCS 1285 MANIFOLD 5, JET	rs heater	CONTROL SWI	TCH ON
LEAD ANALYST:				
ASSESSMENT:				
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NO DIFFERENCES.

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MDAC ID:	FRCS 1295 THERMOSTA	r, PRI	MARY THR	USTERS, - X	AXIS
LEAD ANALYST:	D. HARTMAI	4			
ASSESSMENT:					
CRITICAL: FLIGH	ITY RI	EDUNDA	NCY SCRE	ENS	CIL ITEM
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NASA [3 /2R IOA [2 /1R] [P]]	[P] [F]	[P] [P]	[] * [x]
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DECOMENDIA	TOMO.	/==	316	6						
RECOMMENDAT	TONS:	(II	alr	rere	nt ire	om NAS	SA)			
[/]	[]	[]	[]	[7
					_	-	_			ELETE
								(-	, -	
* CIL RETENT	TON I	ZATTONI	AT.F.	/Tf	annli	cable	• •			
CID KEIDN	11011	WI TOW		(11	appr	rcapre	•		-	_
								DEQUATE	L	J
							INA	DEQUATE	[]
REMARKS:									-	=
IOA AGREES	HTIW	IASA FI	IEA.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1: 03-2F-	49 <i>i</i>	45 - 2			NASA DATA BASELINE NEW								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1297 THERMO	STAT	, PRI	MARY	THRUS	TERS, Y AX	ıs							
LEAD ANALYST: D. HARTMAN ASSESSMENT: REDUNDANCY SCREENS CIL														
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL ITEM														
CRITICALITY REDUNDANCY SCREENS CIL ITEM														
CRITICALITY REDUNDANCY SCREENS CIL ITEM FLIGHT B C HDW/FUNC A B C														
NASA [3 /2 IOA [2 /1	R] R]	[P]	[P [F]	[P] [P]	[x] *							
COMPARE [N /N	3	[]	[N]	[]	[N]							
RECOMMENDATIONS	: (If	dif	feren	t fro	om NAS	A)								
[/		[1	[3	[] ([] ADD/DELETE)							
* CIL RETENTION	RATION	ALE:	(If	appl	icable	e) ADEQUATE INADEQUATE								
REMARKS: IOA AGREES WIT	H NASA I	MEA.												

ASSESSM ASSESSM NASA FM SUBSYST	EN'	r] #:	DATE D:	F) 0:	RCS-1: 3-2F-:	8 298 103	3 3 3 4	5 -1					SA DA ASELI N]]
MDAC ID	:			12 TH	RCS 298 HERMOS	TA	T,	PRIM	AR	У Т	HRUS	TERS	3, Z	AXIS		
LEAD AN	ALY	ST	':	D.	HART	'MA	N									
ASSESSMI	ENT	:														
		F	ICAL LIGH	T	•	R	EDI	UNDAN	CY	SCI	REEN:	S		CI		
		HDI	W/FU	NC		A			В			С		IT	EM	
NASA IOA	[3	/2R /2R]	[P P]	[P P]	[P] P]]]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAT	ľIC	NS:		(If di	Ĺfſ	er	ent f	rc	m N	IASA)					
	[/					[]	(2	[ADD/[TE)
* CIL RE	TEN	TI	ON F	[TA	ONALE	:	(I	f app	li	cab						
REMARKS: NO DIFFEI	REN	CE.	s.								IN	ADEQ ADEQ	UATE UATE	[]	

ASSESSME	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1299 NASA FMEA #: 03-2F-103345								-2						SA ASE		E]	
SUBSYSTEM MDAC ID:				FROM 12	99	sı	ľA'	., P	PRIN	(A)	RY	TH	IRUST	'EF	s,	Z A	XI	s			
LEAD ANA	LYS	ST:	:	D.	HAF	(T	(A)	ī													
ASSESSME	NT:	:																			
•	CR]		ICAL:				RI	EDUN	IDAI	NC	Y	SCF	REENS	3				CI IT		Į.	
	ŀ		W/FUI				A				В			С							
NASA IOA	[3 2	/2R /1R]		[P P]	į	[[P F]	[P P]			[X]	*
COMPARE	[N	/N]		[]		[N]	[]			[N]	
RECOMMEN	DA!	ΓI	ons:		(If	đ.	if:	fere	ent	f	ro	om 1	NASA))							
	[/]		[]		[]	[]	((AC	[DD/	'DF] ELE	ETE)
* CIL RE	TE	ΝT	ION :	RAI	ION	AL	E:	(11	f a	pp	1:	ical			DEQU DEQU			[]	
REMARKS:		W	ITH	NAS	A F	ME.	A.														

ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1300 03-2F-103345	-2	NASA DAT BASELIN NE								
SUBSYSTEM:	FRCS 1300 THERMOSTAT,		RUSTERS, ALI	L AXES							
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICAL: FLIGHT		NDANCY SCRE	ENS	CIL ITEM							
HDW/FUI		В	С	licm							
NASA [3 /2R IOA [2 /2		[P] []	[] * [x]								
COMPARE [N /N] [N]	[N]	[и]	[N]							
RECOMMENDATIONS:	(If differ	ent from NA	SA)								
[2 /2] []	[]	[] ([A] ADD/DELETE)							
* CIL RETENTION F	RATIONALE: (I	f applicabl	e) ADEQUATE								
REMARKS:			INADEQUATE								
REMARKS: THIS FAILURE MAY CAUSE LOSS OF MISSION OPERATIONS. NOTE: VERNIER THRUSTERS THERMAL SWITCH NOT SPECIFICALLY ADDRESSED ON THIS FMEA.											

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEN ASSESSMEN NASA FMEA	FRCS-1						NASA DATA BASELINI NEV]				
SUBSYSTEM MDAC ID: ITEM:	:		FRCS 1301 THERMO	STAT	r, VEF	RNI	ER	THRU	JST	ERS, ALL	AXES	5	
LEAD ANAI	YST	:	D. HAR	(AMT	1								
ASSESSMEN	IT:												
C	CRITICALITY RI FLIGHT HDW/FUNC A						Y	SCREE	ens	}	CII		
				A			В			С			
NASA IOA	[2	/ /1R]	[[P]	[[F]	[[P]	[;	x]	*
COMPARE	[N	/N]	[]	[N]	[]	[]	4]	
RECOMMENI)ATI	ONS:	(If	dif	ferent	: f	rc	m NAS	SA)				
	[/]	[1	1		1	[] (2	[ADD/1] DELE	ETE)
* CIL RET	ENT	ION I	RATIONA	ALE:	(If ā	app	li	.cable		ADEQUATE IADEQUATE	[]	
REMARKS:	יוואי	STERS	S THERM	TAL S	SWITCH	ΙN	roi	ADDE			•	•	

SUBSYSTEM MANAGER STATED THAT THE VERNIER THERMAL SWITCH WAS PART OF THE VERNIER THRUSTER ASSEMBLY AND DID NOT REQUIRE A SEPARATE FMEA. FOR CONSISTENCY WITH THE PRIMARY THRUSTERS, IOA RECOMMENDS A FMEA BE CREATED TO COVER THIS FAILURE MODE.

SUBSYSTEM: FRCS											INE]
SUBSYSTE MDAC ID:		FRCS 11001 FUSE,	1 A										
LEAD ANA	LYST:	D. HAF	(AMT)	1									
ASSESSME	NT:												
	CRITICAL FLIGH	T		EDUND	AN		SCRE	ENS				CIL	
	HDW/FU	NC	A			В			С				
NASA IOA	[3 /2R [3 /1R]	[P]]	P NA]	[P P]		[] *]
COMPARE	[/N]	[]	[N]	[]		[]
RECOMMEN	DATIONS:	(If	diff	feren [.]	t	fro	m NAS	SA)				
	[3 /1R]	[P]	[NA	\]	[P]	(Al	[DD/D] ELETE)
* CIL RE	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []												
REMARKS: FAILURE REDUNDAN	CAUSE TH							V	ALV	/E. :		•	ALL

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMEN	MEA #: 05-6KF-2006-1 FEM: FRCS											ASELI	NE	[x]				
SUBSYSTEM MDAC ID: ITEM:	4:			110		1A													
LEAD ANA	LYS'	r:		D.	HAR'	TM	AN												
ASSESSME	NT:																		
	CRITICALITY FLIGHT								DAN	1C	Y	SCREE	NS	}			CIL	4	
	FLIGHT HDW/FUNC										В			С					
NASA IOA	[3 ,	/2R /1R]]	P P]	 	[[P NA]	[P P]		[]	*
COMPARE	(,	/N]		[]	1	[N]	[]		[]	
RECOMMEN	DAT	10	NS:		(If	di	fí	ere	nt	f	ro	om NAS	SA))					
	ſ	3	/1R	}		[P]		[NZ	A]	[P	1	(A)	[DD/D		ETE)
* CIL RE	TEN	ITI	ON :	RAT	ION?	L	Ξ:	(If	a	pı) 1:	icable			DEQUA'		[]	
REMARKS: FAILURE REDUNDAN	REMARKS: FAILURE CAUSE THE INABILITY TO CLOSE THE VALVE. LOSS OF ALL REDUNDANCY PREVENTS ISOLATION OF A THRUSTER LEAK.																		

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMEN ASSESSMEN NASA FMEA	3X 32 - 1						ASA DAT. BASELIN NEV] x]				
SUBSYSTEM MDAC ID: ITEM:	-	FRCS 11003 MANIFO	LD !	5, ox	&	FU	ISOI	. ·	VĽ	V SWITCI	H		
LEAD ANAL	YST:	D. HAR	[MA]	N									
ASSESSMENT	r:												
CI	CRITICALITY REDU FLIGHT HDW/FUNC A								3		CI IT		
	HDW/FUN	ic	A			В			С			D1/1	
NASA [3 /2R 3 /1R] [P]	[P NA]	[[P P]	[]	*
COMPARE [/N] [•]	[N]]	[]	[]	
RECOMMENDA	TIONS:	(If d	iff	erent	: f	ron	n NAS	A)					
[3 /1R] [P]	[NA]		[P	-	[DD/I	-	TE)
* CIL RETE	NTION R	ATIONAL	E:	(If a	pp	lic	able)					
REMARKS:										EQUATE EQUATE]	
SWITCHED F LOSS OF AL	AILED O L REDUN	PEN CAU DANCY P	SES REV	THE ENTS	IN IS	ABI OLA	LITY	T 0	O F	CLOSE T A THRUS	HE V TER	'ALV: LEA	E. K.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSME ASSESSME NASA FME	4X 32-1						SA DATA ASELINE NEW]				
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 11004 MANIFO	LD	5, OX	ζ &	. 1	FU ISO	ւ ւ	/LV	SWITCH		
LEAD ANA	LYS	r:	D. HAR	AMT	N								
ASSESSME	NT:												
			LTY.	R	EDUNI	AN	1C	Y SCRE	ENS	3		CIL ITEN	ar
		FLIGH! DW/FUI		A	•]	В		С		****	•
NASA IOA	[:	3 /2R 3 /1R]	[P]	[[] []	P] NA]	[P P]	[] *]
COMPARE	[/N]	[]	[[]	и]	[]	[]
RECOMMEN	DAT:	ions:	(If	dif	fere	nt	f	rom NA	SA)			
	[3 /1R]	[F)	1	[]	NA]	[P] (A	[.DD/D1] ELETE)
* CIL RE	TEN'	TION :	RATION?	ALE:	(If	aŗ	qq	licabl			DEQUATE DEQUATE	-]
REMARKS: SWITCHED LOSS OF	FA	ILED REDU	OPEN CA	AUSE PRE	S THE	E I	IN IS	ABILIT OLATIO	Y '	TO OF	CLOSE T	HE V	ALVE. LEAK.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

NASA DATA:

ASSESSMENT DATE: 1/29/88

ASSESSMENT ID: NASA FMEA #:			BASELINE NEW								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11005 MANIFOLD 5	, OX & FU ISOL	VLV SWITCH								
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICA FLIG		DUNDANCY SCREEN	s	CIL							
	UNC A	С	ITEM								
NASA [3 /1 IOA [2 /2	R] [P]] [F] [P]	[X] *							
COMPARE [N /N] [N]] [и][N]	[]							
RECOMMENDATIONS	: (If diffe	erent from NASA)								
[3 /1	R] [P]] [F] [P] (AI	[A] DD/DELETE)							
* CIL RETENTION	RATIONALE:		ADEQUATE	[]							
ADEQUATE [] INADEQUATE [] REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. LOSE CAPABILITY TO OPEN THE VALVE. THIS CAUSES LOSS OF VERNIERS THUS MISSION OPERATIONS.											

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE

ISSUE REMAINS OPEN.

NASA DATA:

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11006X NASA FMEA #: 05-6KF-2032-												SA DAT ASELIN NE	E	[[x		
SUBSYSTEM MDAC ID:			FRCS 11006 MANIFO	LD	5	s, ox	&	F	J ISOL	, ,	/LV	'SWITC	:H			
LEAD ANA	LYST:	:	D. HAF	RTM.	AN	ī										
ASSESSME	NT:															
,	CRITICALITY FLIGHT								SCREE	NS	3			CIL		
				i	A			В			С				••	
NASA IOA	[3 [3	/2R /1R]	[]	P P]	[P N] A]]	P P]		[]	*
COMPARE	ĺ	/N]	[1	[N]	[]		[]	
RECOMMEN	DATIC	ons:	(If	di	fí	ferent	t :	fr	om NAS	SA)					
	[3	/1R	1	[P]	[N.	A]	[P]	(AI	[DD/E		
* CIL RE	TENT:	ION	RATION	ALE	:	(If	ap)	pl	icable			DEQUATI		[]	
REMARKS: SWITCHED LOSS OF	FAI:	LED REDU	OPEN CANDANCY	AUS PR	E:	S THE VENTS	I I	NA SO	BILITY LATION	Z '	TO OF	CLOSE A THRU	TI 'SU	HE V TER	'AL'	VE. AK.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1100			NASA DATA BASELINA NEV									
	FRCS 11007 MANIFOLD	5, OX	& FU ISO	L VLV SWITCH	ī								
LEAD ANALYST:	D. HARTMA	AN											
ASSESSMENT:													
CRITICAL: FLIGH		REDUNDA	NCY SCRE	ENS	CIL ITEM								
HDW/FUI	NC A	1	В	С	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~								
NASA [3 /1R IOA [3 /1R		?]	[F] [P]	[P] [P]	[X] *								
COMPARE [/] []	[и]	[]	[N]								
RECOMMENDATIONS:	(If dif	ferent	from NA	SA)									
[3 /1R] [P	']	[F]		[A] DD/DELETE)								
* CIL RETENTION I	RATIONALE:	(If a	pplicable	ADEQUATE	[]								
	INADEQUATE []												

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11008X	1	ASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11008 RESISTOR, 1.2	2K 2W									
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
		NDANCY SCREENS	CIL ITEM								
FLIGH HDW/FU	NC A	в с	IIEM								
NASA [3 /1R IOA [3 /2R] [P]] [P]] [X] *									
COMPARE [/N] []	[и]] [N]								
RECOMMENDATIONS:	(If differ	ent from NASA)									
[3 /2R] [P]	[P] [P	[D] (ADD/DELETE)								
* CIL RETENTION	RATIONALE: (I	A	DEQUATE [] DEQUATE []								
INADEQUATE [] REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE STATUS. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.											

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT	ID:	FRC				:	NASA DA BASELI N			
SUBSYSTE MDAC ID:			FRC 110 RES		1.2	2K 2W					
LEAD ANA	LYS	ST:	D.	HARTMA	N						
ASSESSME	NT:	:									
	CR	TICAL FLIGH		R	NDANC!	Y SCR	EENS		CI		
	F	HDW/FU		. A		1	3	(C	IT	314
NASA IOA	[3 /3 3 /3]	[]]]]]	[] *]
COMPARE	[/]	[]	[1	[]	[]
RECOMMEN	DAT	rions:	(If dif	fere	ent fi	com N	ASA)			
	[/]	[]	Ĩ.]	[]	[(ADD/I] DELETE
* CIL RE	TEN	TION	RATI(ONALE:	(If	appl	licab	1	ADEQUATI]

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT I	[D:	FRCS	/88 -11010 KF-209		NASA DATA: BASELINE [] NEW [X]							
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1101 RESI		5.1	K 1/4	W						
LEAD ANA	LYST	r:	D. H	ARTMAI	1								
ASSESSME	NT:												
		rical		R	EDUN	DANCY	SCR	EENS			CIL		
	_	FLIGH DW/FU	_	A		В	,	(=				
NASA IOA	[:	3 /3 3 /3]	[[]	[[]	[]		[]	*
COMPARE	[/]	[]	ſ	1	[1		[]	
RECOMMEN	DAT:	ions:	(1	f dif	fere	nt fr	om N	ASA)					
	[/)	[]	[]	[]	(A	[DD/I		TE)
* CIL RE	TEN	TION	RATIO	NALE:	(If	appl	icab	1	ADEQUA ADEQUA]	
REMARKS:											_		

NO DIFFERENCES.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11011X NASA FMEA #: 05-6KF-2092-1							:	NASA DAT BASELIN NE] x]	
SUBSYSTE MDAC ID:		FRCS 11011 RESIS		5.1	K 1/4	W					
LEAD ANA	LYST:	D. HA	RTMA	N							
ASSESSME	NT:										
	EDUNI	DANCY	SCRE		CIL ITEM						
	FLIGH HDW/FU		A		В		(2		11.1	
NASA IOA	[3 /3]	[[]	[]	[]]	[]	*
COMPARE	[/]	[]	[]	[]	[]	
RECOMMEN	DATIONS:	(If	dif	fere	nt fr	om NA	SA)				
	[/]	[]	[]	[] ([ADD/[] ELE	TE)
* CIL RE REMARKS: NO DIFFE		RATION	ALE:	(If	appl	icabl	1	ADEQUATE ADEQUATE	-]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-110	012X	NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11012 RESISTOR	R, 5.1K 1						
LEAD ANALYST:	D. HARTMAN							
ASSESSMENT:								
CRITICAL FLIGH	CIL ITEM							
HDW/FU		A	В	С				
NASA [3 /3 IOA [3 /2R] [] [P] [] [P] [] P]	[] *			
COMPARE [/N] [и ј [и] [N]	[]			
RECOMMENDATIONS:	(If d	ifferent	from NASA	7)				
[3 /2F	.] [P] [P] [[P]	[] DD/DELETE)			
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []							
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION								

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1101 05-6KF-20	13X 091 - 1		NASA DATA BASELINE NEW					
SUBSYSTEM:	FRCS 11013	FRCS							
LEAD ANALYST:	D. HARTMA	AN							
ASSESSMENT:									
CRITICAL: FLIGHT HDW/FUI	r	REDUNDANC)		s c	CIL ITEM				
·		_	-	_					
NASA [3 /3 IOA [3 /2R] [P) [I) [] P]	[] *				
COMPARE [/N] [N	1] [1	i] [и ј	[]				
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)					
[3 /2R] [P	P] [I	,] ([] DD/DELETE)				
* CIL RETENTION I	RATIONALE:	(If appl	icable)						
DEWA DVG			I	ADEQUATE NADEQUATE	[]				
REMARKS: THIS FAILURE MAY POSITION. REDUND TO FALSELY FAILIN OPERATIONS.	DANCY PROV	IDED. LC	SS OF A	LL REDUNDAN	NCY MAY LEAD				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11014X 05-6KF-2091-1	NASA DATA: BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11014 RESISTOR, 5.1K 1/								
LEAD ANALYST:	D. HARTMAN	. HARTMAN							
ASSESSMENT:	ASSESSMENT:								
CRITICAL FLIGH	CIL ITEM								
		В С							
NASA [3 /3 IOA [3 /2R] [] [P] []	[] *						
COMPARE [/N] [N][и] [и]	[]						
RECOMMENDATIONS:	(If different f	rom NASA)							
[3 /2R] [P] [P] [P] (A	[] DD/DELETE)						
* CIL RETENTION	RATIONALE: (If app	licable) ADEQUATE INADEQUATE							
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11015 05-6KF-209	5X 91-1	N 2	ASA DATA: BASELINE NEW]	
SUBSYSTEM:	FRCS 11015 RESISTOR,						
LEAD ANALYST:	D. HARTMAN	ī					
ASSESSMENT:							
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM							
HDW/FU	_	В	С		TIEM		
NASA [3 /3 IOA [3 /2R] [] [P] [] [P] [] [P]		*	
COMPARE [/N] [n] [N] [N]	[]		
RECOMMENDATIONS:	(If diff	erent fro	om NASA)				
[3 /2R] [P] [P] [P		[] D/DEI		
* CIL RETENTION 1	RATIONALE:	(If appli					
REMARKS:				EQUATE EQUATE	[]		
THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE NEW						
	FRCS 11016 EVENT INDICATOR							
LEAD ANALYST:	D. HARTMAN	. HARTMAN						
ASSESSMENT:								
CRITICAL: FLIGHT	CIL ITEM							
HDW/FUI		В С	11211					
NASA [3 /3 IOA [3 /2R] [] [] [P] [P] [P]	[] *					
COMPARE [/N] [N][и] [и]	[]					
RECOMMENDATIONS:	(If different	from NASA)						
[3 /2R] [P] [P] [P] (A	[DD/DELETE)					
* CIL RETENTION I	RATIONALE: (If ap	plicable) ADEQUATE	[]					
DEMARKS.	INADEQUATE []							
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FAISTLY FAILING THE VALVE CLOSED. POSSIBLY EFFECTING MISSION								

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1101	17X 156-1	NASA DATA BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11017 EVENT IND							
LEAD ANALYST:								
ASSESSMENT:								
		REDUNDANCY SO	CREENS	CIL				
FLIGH HDW/FU	NC A	А В	c	ITEM				
NASA [3 /1R IOA [3 /2R] [E	P] [F]	[P] [P]	[X] *				
COMPARE [/N] [] [N]	[]	[N]				
RECOMMENDATIONS:	(If dif	fferent from	NASA)					
[3 /2R] []	P] [P]		[D] DD/DELETE)				
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE []							
INADEQUATE [] REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE STATUS. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.								

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-110	18X 177-1		NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11018 CONTROLI	ER, REMOT	E POWER						
LEAD ANALYST:	D. HARTI	NAI							
ASSESSMENT:									
CRITICAL		REDUNDANC	Y SCREENS	5	CIL ITEM				
FLIGH HDW/FU		A	В	C					
NASA [3 /2R IOA [3 /1R	[P] [P] [P] [NA] [P] P]	[] *				
COMPARE [/N] [] [и] [1	[]				
RECOMMENDATIONS:	(If d	ifferent i	from NASA)					
[3 /1F	?] [P] [NA] [P] (A	[] DD/DELETE)				
* CIL RETENTION	RATIONAL	E: (If ap		ADEQUATE NADEQUATE					
REMARKS: FAILURE CAUSES : LEAK.	INABILITY	TO CLOSE	THE VALV	E TO ISOLA	TE A THRUSTER				
ISSUE IS TIED TO	O THE IOA ATION VAI	A HARDWARE	CRITICAL	ITY FOR TH	E FAILED OPEN				

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11019X NASA FMEA #: 05-6KF-2177-2								NASA DATA: BASELINE [] NEW [X]									
SUBSYSTI MDAC ID: ITEM:				1	RCS 1019 ONTRO	LLI	ER,	REMO	TE	P	OWER						
LEAD AND	ALY	ST	:	D	. HART	'M.	AN										
ASSESSMI	ASSESSMENT:																
	CR		ICAL: LIGH:		ď	F	RED	UNDAN	CY	S	CREENS	S			CIL ITE		
]	HDI	W/FUI	NC.		2	A		В			С			TIE	M	
NASA IOA		3 3	/1R /3]	[]	F	?]]	F]	[P]		[X] *	
COMPARE	[/N]	C	N	ſ]	[N]	[N]		[N]	
RECOMMEN	DAT	CIC	ons:		(If d	if	fe:	rent :	fro	m	NASA)						
	[3	/3]	ι]	[]	[-		[D [D/D]] ELETE)
	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []																
REMARKS: NASA FME. EFFECT.	IASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE ALONE HAS NO																

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT	SSESSMENT DATE: 1/29/88 SSESSMENT ID: FRCS-11020X ASA FMEA #: 05-6KF-2178-1										_	SA DA BASELI N		[]		
SUBSYSTEM: MDAC ID: ITEM:	:			FRCS 11020 CONTR														
LEAD ANALY	YS	T:		D. HA	RTI	(A)	ī											
ASSESSMEN'	r:																	
C			CAL			RE	EDU	JNDANC	CY	SCRE	ENS	3			CI	L EM	r	
			LIGHT /FUI			A			В			С					•	
			/2R /2		[P]	[[P]	[P]		[x]	*
COMPARE	[N	/N]	[N]	[N	1	[N]		[N]	
RECOMMEND	ĽΑ	'IC	ons:	(If	d :	if	feı	rent i	fro	om NA	SA)						
	[2	/2]	[-]	[]	[3	(A)	-	A DI	_	ETE)
* CIL RET	EN	T)	EON I	RATION	AL	E:	(:	If app	pl:	icabl			DEQUAT DEQUAT		[]	
REMARKS: FAILURE C PERFORM M							ΓY	TO O	PE	N THE	I	SO	LATION	1 V	AL	Æ	TO)

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED

CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-110		NASA DATA BASELINE NEW	[]					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11021 CONTROLI	LER, REMO	TE POWER						
LEAD ANALYST:	D. HARTM	IAN							
ASSESSMENT:									
CRITICAL! FLIGHT		REDUNDAN	CY SCREEN	S	CIL ITEM				
HDW/FU	1C	A	В	С					
NASA [3 /1R IOA [3 /3] [P] [F] [P]	[X] *				
COMPARE [/N] [и] [N] [N]	[N]				
RECOMMENDATIONS:	(If di	.fferent :	from NASA)					
[3 /3] [) [] [] (Al	[D] DD/DELETE)				
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []									
REMARKS: NASA FMEA CONTAIN EFFECT.	EMARKS: ASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE ALONE HAS NO								

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11022X	O22X BASELINE []								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11022 DRIVER, HYB	BRID								
LEAD ANALYST:	D. HARTMAN									
ASSESSMENT:										
		OUNDANCY SCREENS		CIL ITEM						
FLIGH HDW/FU	NC A	В	С							
NASA [3 /1R IOA [3 /2R] [P]] [F] [] [P] [P] P]	[X] * []						
COMPARE [/N] []] [N] []	[N]						
RECOMMENDATIONS:	(If diffe	erent from NASA)								
[3 /2R] [P]] [P] [P]	[D] DD/DELETE)						
* CIL RETENTION	RATIONALE:		ADEQUATE ADEQUATE							
REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.										

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMI	ENT DATE ENT ID: EA #:	29/88 NASA DATA: CS-11023X BASELINE -6KF-2210A-2 NEW							[x]		
SUBSYSTI MDAC ID: ITEM:		FRCS 1102 DRIV		YBRI	D							
LEAD AND	ALYST:	D. H.	ARTMA	N								
ASSESSMI	ENT:											
	CRITICA		R	EDUN	DANCY	SCR	EENS			CII	-	
	HDW/F		A		В		С				44.	
NASA IOA	[3 /2] [3 /1]	R]	[P]	[P]	[P]		[] *]	
COMPARE	[/N]	[]	[]	[]		[]	
RECOMMEN	IDATIONS:	(I	f dif	fere	nt fr	om N	ASA)					
	[3 /11	R]	[P]	[P]	[P]	(AI	[DD/E] DELETE)	
* CIL RE	TENTION	RATIO	VALE:	(If	appl	icab	A	DEQU <i>A</i> DEQU <i>A</i>		[j	
REMARKS: THIS FAITHRUSTER	LURE CAU	JSES TI	HE IN	ABIL	ITY TO	o cr		-		•	ISOLATE	A

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11024X	NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11024 DRIVER, HYBRID						
LEAD ANALYST:	D. HARTMAN						
ASSESSMENT:							
CRITICAI FLIGH	 -	NCY SCREENS	CIL ITEM				
HDW/FC	_	В С					
NASA [3 /1F IOA [3 /2F	R] [P] R] [P]	[F] [P] [P] [P]	[X] * []				
COMPARE [/N] []	[и] [и]	[N]				
RECOMMENDATIONS	: (If different	from NASA)					
[3 /2	R] [P]	[P] [P]	[D] ADD/DELETE)				
* CIL RETENTION	RATIONALE: (If a	applicable) ADEQUATE INADEQUATE	[]				
OF ACCURATE IND	ICATION OF THE VA	LURES. THIS FAILURE ALVE POSITION. REDUI CY MAY LEAD TO FALSE: G MISSION OPERATIONS	LY FAILING THE				

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE

ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11	025X		NASA DATA BASELINE NEW						
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11025 DRIVER,	HYBRID)			•				
LEAD ANALYST:	D. HART	MAN								
ASSESSMENT:										
CRITICALI FLIGHT HDW/FUN	ŗ	REDUND A	ANCY B	SCRE		CIL ITEM				
			_		С					
NASA [3 /2R IOA [2 /2] [P]	[P]	[P] []	[] * [X]				
COMPARE [N /N] [N]	[N]	[N]	[N]				
RECOMMENDATIONS:	(If di	fferent	t fro	om NAS	SA)					
[2 /2) []	[]	[] (AD	[A] DD/DELETE)				
* CIL RETENTION R	ATIONALE	: (If a	ppli	cable		•				
REMARKS:					ADEQUATE INADEQUATE	[]				
THIS FAILURE CAUSI OF VERNIERS FOR M	ES THE I	NABILIT PERATTO	Y TO	OPEN	THE VALVE,	CAUSING LOS				

SS ERNIERS FOR MISSION OPERATIONS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSME ASSESSME NASA FME	D:	FRCS-	1102				NASA I BASEI	LINE]	
SUBSYSTE MDAC ID:			FRCS 11026 DRIVE	R, H	YBRID	•					
LEAD ANA	LYST	:	D. HA	RTMA	N						
ASSESSME	NT:										
		ICAL:		R	EDUND	ANCY	SCREEN	s		CIL	
	_	LIGHT W/FUI		A		В		С		ITE	1
NASA IOA	[3	/2R /1R]	[P]	[P [NA] [P] P]		[] *
COMPARE	[/N]	[]	[N) []		ſ]
RECOMMEN	DATI	ons:	(If	dif	feren	t fro	m NASA)			
	[3	/1R]	[P]	[NA] [P]	(Al	[[D/DI] ELETE)
* CIL RE	TENT	ION I	RATION	ALE:	(If	appli		ADEQUA NADEQUA		[]
REMARKS: THIS FAI	LURE		SES IN	ABIL	ITY T	O CLO	SE THE	VALVE	то	ISOL	ATE A

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR A FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1102			BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11027 DRIVER, H	YBRID			
LEAD ANALYST:	D. HARTMAI	N			
ASSESSMENT:					
CRITICAL: FLIGH		EDUNDANC	Y SCREE	ens	CIL ITEM
HDW/FU			В	С	11111
NASA [3 /1R IOA [3 /3] [P] [F]	[P] []	[X] * []
COMPARE [/N] [N] [N]	[N]	[и]
RECOMMENDATIONS:	(If dif	ferent f	rom NAS	SA)	
[3 /3) [] []	[] (A	[D] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If app	olicable	e) ADEQUATE INADEQUATE	[]
REMARKS: NASA FMEA CONTAI EFFECT.	NS MULTIPL	E FAILUR	RES. TH	HIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11 NASA FMEA #: 05-6KF-						282 212	Κ 2−1							DATA: ELINE NEW			
SUBSYSTEM MDAC ID: ITEM:	M:			028	.,	HYI	BRID										
LEAD ANA	LYST	:	D.	HAR	TM	AN											
ASSESSME	NT:																
•		ICAL: LIGH				RE	DUND	AN(CY	SCREE	ENS	3			CIL		
		W/FU				A			В			С					
NASA IOA	[3	/2R /1R]		[P P]	[P NA]	[P P]		[] *]	
COMPARE	[/N]		[]	[N	3	[]		[]	
RECOMMEN	DATI	ons:		(If	di	ff	eren	t :	fro	m NAS	SA))					
	[3	/1R]		[P]	[NA	.]	[P]	(AI	[DD/I] DELETE)	
* CIL RE	TENT	ION	RAT	ION	ALE	:	(If	ap	pli	.cable				QUATE QUATE]	
REMARKS:	LURE	CAU	SES	THE	E I	NA	BILI	ТY	TC	CLOS	SE	TI	ΗE	VALVE	то	ISOLATE	Α

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

THRUSTER LEAK.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11029X	NASA DATA BASELINE NEW			
	FRCS 11029 DRIVER, HYBRID				
LEAD ANALYST:	D. HARTMAN				
ASSESSMENT:					
CRITICAL: FLIGHT		CY SCREENS	CIL		
HDW/FUI	_	В С	ITEM		
NASA [3 /1R IOA [2 /2] [P] [F] [P]	[X] * [X]		
COMPARE [N /N] [N] [и] [и]	[]		
RECOMMENDATIONS:	(If different	from NASA)			
[3 /1R] [P] [NA] [P] (A	[D] DD/DELETE)		
* CIL RETENTION F	RATIONALE: (If app	= · · · · · · · · · · · · · · · · · · ·	_		
DEWARUG.		ADEQUATE INADEQUATE			
REMARKS: NASA FMEA CONTAIN CAUSES INABILITY OF VERNIERS THUS	TO OPEN THE ISOL		AILED HIGH CAUSES LOSS		

ISSUE TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSME	NT	I	D:	1/29/88 FRCS-11030X 05-6KF-2211-1						NASA DATA: BASELINE [] NEW [X]											
SUBSYSTEMDAC ID:	M:			11	CS 030 IVE	٦,	н	'BRI	:D												
LEAD ANA	LY	ST	:	D.	HAI	?TI	IAN	1													
ASSESSME	NT	:																			
(CR:		ICAL: LIGH				RI	EDUN	[DA]	NC:	¥	SCRE	EN	S					I L PEI		
	1	HDI	W/FUI	NC.			A]	В			С						_	
NASA IOA	[3 2	/2R /2]		[P]		[]	P]	[P]			[x]	*
COMPARE	[N	/N]		[N]		[]	1]	[N]			[N]	
RECOMMENI	DA!	ric	ons:		(If	d:	iff	ere	nt	f	co	m NAS	SA)							
	[2	/2]		[]	ļ	[)	[]				A /DI		ETE)
* CIL RE	ΓEI	NT:	ION I	TAS	IONA	LI	Ξ:	(If	ap	gp.	Ιi	cable	·	A I A V	DEQ DEO	UATE UATE		[]	
REMARKS: THIS FAIL		RE	CAUS	SES	TNA	B	гт.т	ጥሃ	то	OI	ाम	ו יוידי								•	25

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

THUS CAUSING LOSS OF MISSION OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-110 05-6KF-2			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11031 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDANG	CY SCREEN	s	CIL ITEM
HDW/FU		A	В	С	
NASA [3 /1R IOA [3 /3		P] [F] [P]	[X] * []
COMPARE [/N] [и] [N] [N]	[N]
RECOMMENDATIONS:	(If di	.fferent	from NASA	۷)	
[3 /3] [] [] [] (A	[D] .DD/DELETE)
* CIL RETENTION	RATIONALE	E: (If ap)		ADEQUATE	[]
REMARKS: NASA FMEA CONTAI EFFECT.	NS MULTIP	PLE FAILU	RES. THI	S FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11032X	NASA DATA: BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11032 DRIVER, HYBRID								
LEAD ANALYST:	D. HARTMAN								
ASSESSMENT:									
CRITICAL FLIGH		CY SCREENS	CIL ITEM						
HDW/FU		В С							
NASA [3 /2R IOA [2 /2] [P] [P] [P]]	[] * [x]						
COMPARE [N /N] [N][и] [и]	[N]						
RECOMMENDATIONS:	(If different	from NASA)							
[2 /2] [] [[] [AI	[A] DD/DELETE)						
* CIL RETENTION	RATIONALE: (If ap	plicable) ADEQUATE INADEQUATE	[]						
REMARKS: THIS FAILURE CAU OF VERNIERS THUS	EMARKS: HIS FAILURE CAUSES THE INABILITY TO OPEN THE VALVE, CAUSING LOSS F VERNIERS THUS MISSION OPERATIONS.								

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:		.033X			A DATA: SELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11033 DRIVER,	HYBRID								
LEAD ANALYST:	D. HART	MAN								
ASSESSMENT:										
	CALITY IGHT	REDUNDA	ANCY S	CREENS	CIL ITEM					
	/FUNC	A	В	С	IIEM					
NASA [3]	/1R] [/1R] [P] P]	[F] [P]	[P] [P]	[X] * []					
COMPARE [/] []	[N]	[]	[N]					
RECOMMENDATIO	NS: (If d	ifferent	from	NASA)						
[3 ,	/3] [)	[]	[]	[D] (ADD/DELETE)				
* CIL RETENTION REMARKS:	ON RATIONAL	E: (If a	applica	•	QUATE [] QUATE []					
NASA FMEA CONT THE VALVE TO				LOSE CAR	PABILITY TO CLOS	SE				

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11034X	-1	NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11034 DRIVER, HYBI	RID		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL		UNDANCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		В	С	
NASA [3 /2R IOA [2 /2] [P]] []	[P] []	[P] []	[x] *
COMPARE [N /N] [N]	[N]	[N]	[и]
RECOMMENDATIONS:	(If diffe	rent from NAS	A)	
[2 /2] []	[]	[]	[A] DD/DELETE)
* CIL RETENTION	RATIONALE: () ADEQUATE INADEQUATE	[]
REMARKS: THIS FAILURE CAU OF VERNIERS THUS	SES HE INABI MISSION OPE	LITY TO OPEN	THE VALVE,	CAUSING LOSS

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11 05-6KF-	035X			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11035 DRIVER,	HYBRII)			
LEAD ANALYST:	D. HART	MAN				
ASSESSMENT:						
CRITICALI FLIGHT		REDUNE	ANCY	SCREENS		CIL
HDW/FU		A	В	•	С	ITEM
NASA [3 /1R IOA [3 /3] [P]	[F] [P]	[X] *
COMPARE [/N] [N]	[N] [1	N]	[N]
RECOMMENDATIONS:	(If d	ifferen	t fro	om NASA)		
[3 /3] []	[) [] (AI	[D] DD/DELETE)
* CIL RETENTION F	ATIONALI	E: (If	appli	-		
REMARKS:					ADEQUATE ADEQUATE	[]
NASA FMEA CONTAIN EFFECT.	S MULTII	PLE FAI	LURES	. THIS	FAILURE A	LONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-110	036X		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11036 DIODE				
LEAD ANALYST:	D. HARTI	MAN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDAN	CY SCREEN	s	CIL ITEM
HDW/FU		A	В	С	
NASA [3 /1R IOA [3 /3] [P] [F] [P]	[X] *
COMPARE [/N] [и] [[и]	N]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NASA)	
[3 /3] [] [.] [] (A	[D] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ar		ADEQUATE	[]
REMARKS: NASA FMEA CONTAI EFFECT.	NS MULTI	PLE FAIL	JRES. THI	S FAILURE	ALONE HAS NO
AT MEETING WITH	SUBSYSTE	M MANAGEI D UPON TI	R ON 1/20/ HAT THE IS	88, NSTS 2 SUE RAISED	2206 WAS ABOVE WAS

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	FRCS-1: 05-6KF-	3 1037X -2257 - 2		NASA DAT BASELIN NE		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11037 DIODE					
LEAD ANALYST:	D. HART	TMAN .				
ASSESSMENT:						
CRITIC: FLIC		REDUNDAN	ICY SCRI	EENS	CIL ITEM	
	UNC	A	В	С	ITEM	
NASA [3 /: IOA [3 /:	R] [P] [P]	[] [P]	[]	*
COMPARE [/I] [[и]	N]	[N]	[]	
RECOMMENDATIONS	: (If d	lifferent	from NA	ASA)		
[3 /2	R] [P] [P]	_	[] ADD/DEL	ETE)
* CIL RETENTION	RATIONAL	E: (If ap	plicabl	•		
DEMARKS.				ADEQUATE INADEQUATE	[]	
REMARKS: THIS FAILURE MAP POSITION. REDU TO FALSELY FAIL OPERATIONS.	NDANCY PR	OVIDED.	LOSS OF	' ALL REDUNDA	ANCY MA	Y LEAD

	TEM: FRCS D: 11038								NASA DATA: BASELINE [] NEW [X]								
SUBSYSTE MDAC ID: ITEM:	M:		110														
LEAD ANA	LYST	:	D.	HART	MAI	1											
ASSESSME	NT:																
		ICAL			R	EDUN	DANCY	sc	REENS			CI	L				
		W/FU			A		В	}		С		11	EM				
NASA IOA	[3 [3	/1R /3]]]	P]	[F))	[P]		[[X) *]			
COMPARE	[/N]	[N]	[N]	[N]		[N :]			
RECOMMEN	DATI	ons:	i	(If d	if	fere	nt fr	om	NASA)								
	[3	/3]	[]	[]	[]	(A		DEI] LETE)			
* CIL RE	TENT	ION :	RAT:	IONAI	E:	(If	appl	ica			UATE UATE	•]]			
NASA FME	A CO	NTAI	NS 1	MULTI	PL	E FA	LURE	s.	THIS	FAI	LURE	ALC	NE	HAS	NO		

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

EFFECT.

	FRCS-11	039X 2257A-2		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11039 DIODE				
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICAI FLIGH		REDUNDAN	CY SCREE	NS	CIL ITEM
	NC	A	В	С	IIEM
NASA [3 /3 IOA [3 /2F] [] [P] [P]	[] [P]	[] * []
COMPARE [/N] [и] [N]	[и]	[]
RECOMMENDATIONS:	(If d	ifferent :	from NAS	A)	
[3 /2F	.] [P] [P]	[P]	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ap	plicable		
			:	ADEQUATE INADEQUATE	[]
REMARKS: THIS FAILURE CAU POSITION. REDUN TO FALSELY FAILI OPERATIONS.	DANCY PR	OVIDED.	LOSS OF A	ALL REDUNDA	NCY MAY LEAD

ASSESSME ASSESSME NASA FME	1						DATA: LINE NEW									
SUBSYSTE MDAC ID:	M:		FRC 110 DIO	44												
LEAD ANA	LYST	:	D.	HARTN	IAN	ī										
ASSESSME	NT:															
		ICAL			RE	DUN	DAN	CY	sc	REEN	S			CIL		
		LIGH' W/FU			A			В			С				••	
NASA IOA	[3	/2R /1R]	[P P]	[P P]]	P P]		[]	*
COMPARE	C	/N]	[]	נ]	[]		[]	
RECOMMEN	DATI	ons:	([If d:	ifi	fere	nt	fr	om	NASA	.)					
	[3	/1R]	[P]	[N.	A]	[P)	(A	[DD/D		TE)
* CIL RE	TENT	ON	RATI	ONAL	E:	(If	aŗ	pl	ica		A		JATE JATE	[]	
REMARKS: THIS FAI THRUSTER	LURE		SES	INAB	IL	ITY	то	CL	OSE	THE	· V	ALVI	то т	ISOL	ATE	E A

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMI NASA FMI	ENT	I	D:	FRC	9/88 S-1104 6KF-22		-2		1	NASA BASE	DATA LINE NEW	[] x]	
SUBSYSTE MDAC ID:				FRO 110 DIO	45									
LEAD ANA	LY	ST	:	D.	HARTMA	N								
ASSESSME	ENT	:												
	CR			LITY	R	EDUN	IDANCY	SCF	REENS			CI		
	FLIGHT HDW/FUNC				A		В	}	C	2	IT	EM		
NASA IOA	[3	/3 /3]]]	[]	[[]		[] *	ŧ
COMPARE	[/]	[]	(]	[]		[)	
RECOMMEN	DA!	ri	ons:	(If dif	fere	ent fr	om N	(ASA)					
	[/]	[]	[]	[1		[DD/:] DELET	'E
* CIL RE	TEI	T	ION	RATI	ONALE:	(If	appl	icab	•	DEQU	ATE	[]	
REMARKS.									INA	DEQU	ATE	Ī	j	

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1104		NASA DATA: BASELINE [] NEW [X]								
	FRCS 11046 DIODE										
LEAD ANALYST:	D. HARTMA	N									
ASSESSMENT:											
CRITICALI FLIGHT		EDUNDANCY	SCREE	NS	CIL						
HDW/FUN		E	3	С	ITEM						
NASA [3 /3 IOA [3 /1R] [] [P] [F]	[] [P]	[] *						
COMPARE [/] [] []	[]	[]						
RECOMMENDATIONS:	(If dif	ferent fr	om NAS	A)							
[/] [] []	[] [A]	[] DD/DELETE)						
* CIL RETENTION F	RATIONALE:	(If appl	•	ADEQUATE INADEQUATE	[]						
REMARKS: LOSE CAPABILITY T REDUNDANCY PROVID ISOLATE A THRUSTE	DED. LOSS		WITH TH	HE GPC. MAN	•						

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSME ASSESSME NASA FME	ENT	ID:	FR	29/88 CS-1104 -6KF-22		-2			ASA DAT BASELIN NI		; ;			
SUBSYSTE MDAC ID:			FR 11 DI											
LEAD ANA	LYS	T:	D.	HARTMA	N									
ASSESSME	ENT:													
	CRI		ALITY	R	EDUI	NDANCY	SCF	REENS		CII				
	H	FLI IDW/	FUNC	A		В		C	:	ITEM				
NASA IOA]	3 /	3] 3]	[]	[]]	[]	[[] *			
COMPARE	[/]	[]	[]	[]	[]			
RECOMMEN	IAGI	NOI	s:	(If dif	fere	ent fr	om N	IASA)						
	(/)	[]	[]	[]	[(ADD/I] DELETE			
* CIL RI	:			IONALE:	(Ii	f appl	icab	A	DEQUATI	-]			

ASSESSMI ASSESSMI NASA FMI	ENT	II		FF	29/8 RCS-1 I-6KI	110			1						ASA BASE	LI	1E	[x]	
SUBSYSTEMDAC ID:				11	CS .048 CODE																
LEAD AND	ALYS	ST:	:	D.	HAI	RTI	IAN	1													
ASSESSMI	ENT	:																			
	CR		ICAL		<u>.</u>		RI	EDUN	DAN	1C	Y	SCRE	EN	S				C]	L EN	,	
	1		LIGH W/FU				A				В			С				1.	. Er	1	
NASA IOA			/2R /2R			[P P]		[P NA]	[P P]			[]	*
COMPARE	(/]		[]	1	[N]	[]			[]	
RECOMME	NDA'	rI	ons:		(If	d	if:	fere	nt	f	ro	m NA	SA)							
	[/	3		E]	!	[]	[]		(A)	-	/DI	-	ETE)
* CIL R		NT	ION	RAT	CION	AL	E:	(If	a	pp) 1 i	cabl			DEQU DEQU			[]	
REMARKS	:																				

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:		1/29/ FRCS- 05-6K	11	04		-2						DATA LINE NEW]	
SUBSYSTE MDAC ID:				FRCS 11049 DIODE													
LEAD ANA	LYS'	T:		D. HA	RT	MAI	N										
ASSESSME	ENT:																
	CRI	TIC! FLIC				R	EDUN	IDAI	1CY	SCI	REENS	5			CII		
	H	DW/I	FUN	С		A			ВС							•••	
NASA IOA	[3 /2 3 /3	2R 3]	[[P]		[P]	[[P]		[]	*
COMPARE	(/1	4]	[N]	١	N]	[N]		[]	
RECOMMEN	IDAT:	IONS	S:	(If	đ.	ifi	fere	nt	fr	om 1	NASA))					
	[/	٠]	[3	[•]	[]	(A	[DD/E] ELE:	re)
* CIL RE REMARKS: IOA AGRE							(If	aŗ	pl	icak	•			ATE ATE	[]	
TON HOUE	I	'' T T L	T 141	UOV LI													

ASSESSME ASSESSME NASA FME	NT	II		FR	cs-1	10										DAT ELIN NI	ΙE]	
SUBSYSTE MDAC ID:					CS 050 ODE															
LEAD ANA	LYS	ST:	:	D.	HAF	T	(A)	I												
ASSESSME	ASSESSMENT:																			
	CRITICALITY FLIGHT								NDA	NC	CY	SCR	REENS	3				CI	ì	
							A				В			С						
NASA IOA	[3	/2R /2R]		[P P]		[P NA]	[P P]			[]	*
COMPARE	[/	1		[]		[N]	[]			[]	
RECOMMEN	IDA:	rIC	ons:		(If	d :	if	fere	ent	: 1	fro	om N	IASA))						
	[/]		[]		[]	(]		(A)	[DD/		TE)
* CIL RI	ETEI	NT:	ION 1	RAT	ION	λL	Ε:	(I:	fa	apj	p1 :	icak	ole) I	A IAN	DEQ DEQ	UAT: UAT:	E E	[]	
REMARKS:	-	NC:	ES.										_		~			•	-	

ASSESSME ASSESSME NASA FME	NT	I		FRCS	9/88 5-1105 5KF-22				1		DATA LINE NEW	[] x]
SUBSYSTE MDAC ID: ITEM:				FRCS 1105 DIOI	51								
LEAD ANA	LYS	ST	:	D. H	IARTMA	N.							
ASSESSME	NT:	:											
	CRI		[CAL LIGH	ITY	R	EDU	NDANCY	SCR	EENS			CII	_
				A		E	3	(2		ITI	≤M	
NASA IOA	HDW/FUNC NASA [3 /3] [IOA [3 /3] []]	[]]] *
COMPARE	[/]	[]	[]	[3		[]
RECOMMEN	DAI	'IC	ons:	(I	f dif	fere	ent fr	om N	'ASA)				
	[/]	[]	[]	[]	(A	[DD/[] ELETE)
* CIL RE	TEN	T)	ON	RATIO	NALE:	(If	appl	icab	Ā	ADEQU ADEQU		[]
REMARKS: NO DIFFE	REN	ICE	ES.										

ASSESSME ASSESSME NASA FME	NT	II		FR	cs-1	.10		X 57B-1	1					_		DA' ELII N		[]	
SUBSYSTE MDAC ID:	M:				CS 052 ODE																
LEAD ANA	LYS	T:	:	D.	HAI	(T)	IAN	1													
ASSESSME	NT:	;																			
	SSESSMENT: CRITICALITY FLIGHT							EDUN	DAI	4CY	SC	REE	NS	3				C]	L EN	1	
							A			В				С							
NASA IOA	([3	/2R /2R]		[P P]		(P (P]]	P P]			[]	*
COMPARE	[/]		[]		[]		[]			[]	
RECOMMEN	IDA!	rI(ONS:		(If	d	if	fere	nt	fr	om	NAS	A))							
	[/	1		[]		[]		[]		(A)] DD,	/D	EL)	ETE)
* CIL RI	ETE!	NT:	ION	RAI	CION	ΑL	E:	(If	a	ppl	ica	ble				TAU TAU		[]	
REMARKS	:																				

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	ENT ID:	FRC	9/88 5-1105 5KF-22					ATA: INE [NEW [x]
SUBSYSTE MDAC ID:		FRC: 110! DIO	53						
LEAD ANA	LYST:	D. 1	IARTMA	N					
ASSESSME	INT:								
	CRITICA FLIC	HT	R	EDUN	IDANCY	SCR	EENS	CI IT	L EM
	HDW/I	TUNC	A		В		С		
NASA IOA	. , -	R]	[P]	[P]	[P] []	[] *]
COMPARE	[/N	r j	[N]	[14]	[N]	[]
RECOMMEN	DATIONS	i: (1	f dif	fere	ent fr	om N	ASA)		
	[/]	ί]	[]	[]	[(ADD/] DELETE)
* CIL RE	TENTION	RATIO	NALE:	(If	appl	icab	le) ADEQUA INADEQUA	•]
REMARKS: IOA AGRE	ES WITH	NASA	FMEA.						

ASSESSMEN ASSESSMEN NASA FME	T	ID:	FRO	CS-1	10									SA I BASEI		[]	
SUBSYSTEM MDAC ID:	M:		FRO 110 DIC	054															
LEAD ANA	LYS'	T:	D.	HAR	(T	(A)	1												
ASSESSME																			
(RI	EDUN	DAI	NC	Y	SCR	EENS	5			CI				
	CRITICALITY FLIGHT HDW/FUNC									В			С						
NASA IOA	HDW/FUNC NASA [3 /2R] IOA [3 /2R]					P P]] [P NA]	[P P]		[]	*
COMPARE	[/]		ſ]		[N]	[]		[]	
RECOMMEN	DAT	ions:		(If	d :	if:	fere	ent	1	fro	om N	ASA)						
	[/]		[]		[]	[]	(P	DD/	DE] LE	TE)
* CIL RE	TEN	TION	RAT	ION	AL:	E:	(If	f a	pi	,1 :	icab			DEQU DEQU		_]	
REMARKS:		ICES.																	

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRCS	-110	55X 257C-	2			NASA DATA BASELINI NEV		x]
SUBSYSTIMDAC ID:			FRCS 1105 DIOD	55							
LEAD AND	ALYS	T:	D. H	IARTM	AN						
ASSESSMI	ENT:										
		TICAL		F	REDUN	DANC'	Y SCR	EENS		CII	
		FLIGH DW/FU		7	1	1	В	(C	ITI	EM
NASA IOA	[3 /3 3 /3]	[]	[]	[]	[] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	IDAT	ions:	(I	f dif	fere	nt fi	om N	ASA)			
	(/]	Ţ]	[]	[] (A	[.DD/[] DELETE)
* CIL RE	TEN'	TION 1	RATIO	NALE:	(If	app]	licab	1	ADEQUATE ADEQUATE]
DEMADEC.										L	,

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11056X 05-6KF-2269-	BA	A DATA: SELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11056 DIODE		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
		INDANCY SCREENS	CIL ITEM
FLIGH HDW/FU		ВС	
NASA [3 /3 IOA [3 /2R] []]	[] [] [P] [P]	[] *
COMPARE [/N] [N]	[N] [N]] []
RECOMMENDATIONS:	(If differ	cent from NASA)	
[3 /2R] [P]	[P] [P	[] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (AD:	EQUATE [] EQUATE []
POSTUTON. REDUN	DANCY PROVID	ED. LOSS OF ALL	ATION OF THE VALVE REDUNDANCY MAY LEAD EFFECTING MISSION

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRC	9/88 S-1105 6KF-22					NASA DAT BASELIN NE		x]
SUBSYSTI MDAC ID: ITEM:			FRC: 110: DIO	57							
LEAD ANA	ALYS	T:	D. 1	HARTMA	N						
ASSESSME	ENT:										
		TICAL		R	EDUN	DANC	SCR	EENS		CI	<u></u>
		FLIGH DW/FU		A		I	3	+	С	IT	EM
NASA IOA	[3 /3 3 /3]	[]	[]	[]]	[] *
COMPARE	[/]	[]	[]	[1	[]
RECOMMEN	DAT	ions:	(1	f dif	fere	nt fr	om N	ASA)			
	[/]	[]	[]	[[ADD/I] DELETE)
* CIL RE	TEN'	TION 1	RATIO	NALE:	(If	appl	icab	1	ADEQUATE ADEQUATE	[]

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	T ID:	1/29/88 FRCS-11 05-6KF-	1058			NASA D BASEL]
SUBSYSTEM MDAC ID: ITEM:		FRCS 11058 DIODE						
LEAD ANAI	LYST:	D. HART	MAN					
ASSESSMEN	T:							
C	RITICAL FLIGH		REI	DUNDAN	CY SCRE	ENS	CIL	
	HDW/FU	_	A		В	С	ITE	M
NASA IOA	[3 /3 [3 /2R] [P] [p]	[] [P]	[] *
COMPARE	[/N] [N]) [N]	[N]	[3
RECOMMEND	ATIONS:	(If d	liffe	erent 1	from NA	SA)		
	[3 /2R] [P]] [P]	[P]	[(ADD/D] ELETE)
* CIL RET	ENTION 1	RATIONAL	Æ: ((If app	olicabl	e) ADEQUA' INADEQUA']

THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

NASA DATA:

ASSESSMEI ASSESSMEI NASA FMEZ	NT I		1/29/ FRCS- 05-6K	1105					ASA DATA BASELINI NEV			
SUBSYSTEM MDAC ID:	M:		FRCS 11059 DIODE									
LEAD ANA	LYST	:	D. HA	RTMA	N							
ASSESSME	NT:											
,		ICAL LIGH	ITY	R	EDUN	DANCY	SCR	EENS		CII		
		W/FU		A		В		C	:			
NASA IOA	[3 [3	/3 /3]	[]	[]	[[]	[]	*
COMPARE	נ	/]	[]	[]	[]	[]	
RECOMMEN	DATI	ons:	(If	dif	fere	ent fro	om N	ASA)				
	[/	1	[]	[]	Į.] ([ADD/I		TE)
* CIL RE	TENT	ION	RATION	IALE:	(If	appl	icab	1	ADEQUATE ADEQUATE	-]	
REMARKS: NO DIFFE		ES.								-	-	

ASSESSMEN ASSESSMEN NASA FME	II Tr	D:	FRO	29/88 CS-110 -6KF-2									ATA: LINE NEW	[
SUBSYSTEM MDAC ID:	M:		FRO 110 DIO	060												
LEAD ANA	LYST	:	D.	HARTI	IAN	ſ										
ASSESSME	NT:															
,					RE	DUN	DAN	CY	SCRI	EENS	;			CIL		
	CRITICALITY FLIGHT HDW/FUNC							В			С					
	-						[P NA] A]	[P P]		[]	*
COMPARE	[/N]	[]	[N	3	[]		[]	
RECOMMEN	DATI	ons:		(If d	ifi	fere	nt	fr	om Na	ASA))					
	[3	/1R]		P]	[N	A]	[P]	(A)	[DD/I		ETE)
* CIL RE	TENT	PION	RAT	IONAL	E:	(If	ap	pl	icab				ATE ATE	[]	
REMARKS: LOSE CAP REDUNDAN	ARTI	ITY AUSE	TO S I	CLOSE NABIL	TI IT	НЕ V ОТ Y	ALV	E OL	WITH ATE	MAI A Ti	NUZ HRI	ALLY JSTE	. L	oss AK.	OF	ALL

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FR	29/88 CS-1106 -6KF-22				ì	IASA DA BASELI N]	
SUBSYSTE MDAC ID:			FRO 110 DIO	061									
LEAD ANA	LYS	ST:	D.	HARTMA	N								
ASSESSME	ENT:	;											
	CRI	TICAL FLIGH		R	EDUN	NDANCY	sci	REENS			:IL	•	
	F	IDW/FU		A		В		c	!	1	TEM		
NASA IOA]	3 /3 3 /3]]]	[]	[[]	[] *	
COMPARE	[/]	[1	[]	[]	[]	
RECOMMEN	DAT	'IONS:	(If dif	fere	ent fr	om 1	NASA)					
	[/]	[]	[]	[]	[(ADD	/DE] LETE	, ,
* CIL RE	TEN	TION I	RATI	ONALE:	(If	appl:	icak	A	DEQUAT DEQUAT	_	:]	
REMARKS:										_		-	

NO DIFFERENCES.

NASA DATA:

ASS	ESSM ESSM A FM	EN	T	II):	FR	CS-1	110		X 7E-1					-	SA DATA SASELINE NEW]		
	SYSI C II M:		:			11	CS .062 CODE													
LEA	D AN	IAI	ΥS	T:	:	D.	HAI	RTM	AN	Ī										
ASS	ESSM	IEN	T:	:																
		c	R		ICAI LIGH		?		RE	DUNI	ANC	Y	SCRE	ENS	5		CIL			
			F		W/FU				A			В			С					
	NASA IOA				/3 /1F] ?]]	P]	[[N.]	[P]	[]	*	
COM	IPARI	Ξ	[/]		[]	[]	[]	[]		
REC	OMM	ENI	DA!	ΓI	ONS:	:	(If	di	fſ	erei	nt 1	fro	om NA	SA)					
			[/]		[]	[]	[] (A	[.DD/D	ELI	ETE)	
* (CIL I	RET	rei	NT:	ION	RA	rion.	ALE	:	(If	app	91 :	icabl			DEQUATE DEQUATE]]		
LOS	IARKS SE CA DUNDA DLATE	APA ANG	CY	P	ROV:	IDE	D.	LO	TI SS	HE V	ALVI ALI	E 1	WITH REDUN	TH IDA	E (GPC. MA Y CAUSES	NUAL INA	BI:	LITY	то

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSMI ASSESSMI NASA FMI	ENT I	D:	1/29/ FRCS- 05-6K	1106		2			nasa da Basel		[) X]	
SUBSYSTEMDAC ID			FRCS 11063 DIODE										
LEAD AND	ALYST	:	D. HA	RTMA	N								
ASSESSMI	ENT:												
	CRIT	ICAL LIGH		R	EDUNI	DANC	SCR	EENS			CII		
		W/FU		A		F	3	(С		ITE	EM	
NASA IOA	[3 [3	/3 /3]	[]	[]	[]		[] *	•
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If	dif	feren	ıt fr	om Na	ASA)					
	[/]]]	[]	[]	(AI	[DD/D] ELET	E)
* CIL RE REMARKS: NO DIFFE			RATION	ALE:	(If	appl	icab]	A	ADEQUAT ADEQUAT		[]	

ASSESSMEN ASSESSMEN NASA FMEA	T.	ID	:	FRC	9/88 S-1: -6KF	10	64: 25	X 7F-	-1					1				NE	[x		
SUBSYSTEM MDAC ID:	1 :			FRO 110 DIO	64																
LEAD ANA	LYS	T:		D.	HAR	TM	AN														
ASSESSME	NT:																				
			CAL]				RE	DU	NDA	NC	CY	SC	REE	NS	1				CIL		
			.IGH? I/FUI				A				В				С						
NASA IOA	[3	/2R /1R]		[P P]		[P P]]	P P]			[]	*
COMPARE	[/N]		[]		[]		[]			[]	
RECOMMEN	[ADI	ric	ons:		(If	d :	if	fer	ent	t :	fr	om	NAS	A))						
	[3	/1R]		[P]		[N	A]		[P]		(A	[.DD/I		ETE)
* CIL RE	ETEI	T	ION	RAT	CION	AL	E:	(1	[f	ap	pl	ica	able				QUA'		[]	
REMARKS: LOSE CAI CAUSES	O R	IL BI	LTY LITY	TO TC	CLO:	SE OL	T AT	HE E 1	VA A T	LV HR	E.	TE	LOSS R L	S E A	OF K.	A]	LL :	RED	UND	ANC	Y.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11 05-6KF-	L06	5X 57F-2						A DAT SELIN NE]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11065 DIODE											
LEAD ANALYST:	D. HART	'MAI	N									
ASSESSMENT:												
CRITICAL FLIGH	r	RI	EDUND?	ANC	CY	sc	CREENS			CIL	-	
HDW/FU	NC	A			В			С		ITE	M	
NASA [3 /2R IOA [3 /3] [P]	[P]	[P]]] *	
COMPARE [/N] [N]	[N]	[]	N j		[]	
RECOMMENDATIONS:	(If d	iff	erent	f	rc	m	NASA)					
[3 /3	_			[]	[]	(A	[DD/D1] ELETE	:)
* CIL RETENTION F	ATIONALE	ዸ:	(If a	pp	li	cal	P	ADEQI ADEQI		[]	
REMARKS: NASA FMEA CONTAIN EFFECT.	s Multif	LE	FAIL	UR	ES	•				L	HAS	NC

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS-	1106				ATA: INE [NEW [X]						
SUBSYSTE MDAC ID:			FRCS 11066 DIODE												
LEAD ANA	LYST	:	D. HA	RTMA	N										
ASSESSME	ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL TTEM														
FLIGHT															
				A		В	С		•						
NASA IOA	[3 [3	/3 /1R]	([P]	[] [NA]	[] [P]	[] *]						
COMPARE	C	/]	[]	[]	[]	[]						
RECOMMEN	ITAGN	ons:	(II	f dif	fere	nt from	NASA)								
	[/]	[]	[]	[]	(ADD/D							
* CIL RI	ETENT	OION	RATIO	NALE:	(If	applica	ADEQUA	TE []						
REMARKS: LOSE CAI REDUNDAI ISOLATE	PABIL NCY P	ROVI	DED.	LOSS	HE V	ALVE WIT	INADEQUA H THE GPC. NDANCY CAUS	MANUAL	-						

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSMENT ASSESSMENT NASA FMEA	ID:		1106		:]	NASA DAT BASELIN NE		
SUBSYSTEM: MDAC ID: ITEM:		FRCS 11067 DIODE								
LEAD ANALY	ST:	D. HAI	RTMA	N						
ASSESSMENT	!:									
CF	RITICAL:		R	EDUND	ANCY	SCRE	ENS		CII	
	HDW/FU		A		В	i	(c	ITE	:M
NASA [IOA [3 /3 3 /3]	[]	[]	[]	[] *
COMPARE [/]	[]	[]	ĺ]	[]
RECOMMENDA	TIONS:	(If	dif:	feren	t fr	om NA	SA)			
(/]	[]	[]	[[ADD/D] ELETE)
* CIL RETE REMARKS: NO DIFFERE		RATIONA	ALE:	(If	appl	icabl	1	ADEQUATE ADEQUATE]

ASSESSME ASSESSME NASA FME	NT	II			FR	cs-1	110)68 225	3X 57H-:	1				_		DAT ELIN NE	ΙE			
SUBSYSTE MDAC ID:	M:					CS 068 ODE														
LEAD ANA	LYS	ST	:		D.	HAI	RT1	(A)	1											
ASSESSME	NT:	:																		
	CR		[CA		ĽΤΥ			RI	EDUN	DAI	ICY	SCI	REEN	IS				CIL		
	I		N/F					A			В			C	:					
NASA IOA	[3 3	/2 /2	R]		[P P]	[P]	(I))			[]	*
COMPARE	[/]		[]		•]	-		3			[]	
RECOMMEN	DA!	ΓI	ONS	S:		(If	d:	if	fere	nt	fr	om 1	NAS	A)						
	[/]		[]		[]	1	[]		(A	[DD/I		ETE)
* CIL RE		NT	101	1	RAT	'ION	ΑL	E:	(If	a j	ppl	ica		2		TAUÇ		[]	
NO DIFFE		NC	ES.																	

ASSESSME ASSESSME NASA FME	ENT	ID:	FRCS	3-1106					NASA DAT BASELIN NE		x]
SUBSYSTE MDAC ID:			FRCS 1106 DIOD	9							
LEAD ANA	LYS	T:	D. H	IARTMA	N						
ASSESSME	ENT:										
		TICAL FLIGH		R	EDUN	IDANCY	SCF	REENS		CII	
		DW/FU		A	.	F	3	(C	ITI	EM
NASA IOA	[3 /3 3 /3]	[]	[]	[]	[] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	DAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)			
	[/]	[]	[]	[[ADD/E] DELETE)
* CIL RE	TEN:	rion 1	RATIO	NALE:	(If	appl	icab	1	DEQUATE]
DEMADEC.								INA	DEQUATE	[]

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-110 05-6KF-2			NASA DATA BASELINE NEW										
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11070 DIODE													
LEAD ANALYST:	D. HARTI	MAN												
ASSESSMENT:														
	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C													
HDW/FU		A	В	С										
NASA [3 /2R IOA [2 /2] [P]	[P] []	[P] []	[x] *									
COMPARE [N /N] [N]	[и]	[N]	[N]									
RECOMMENDATIONS:	(If d	iffere	nt from N	ASA)										
[2 /2] []	[]	[] (2	[A] ADD/DELETE)									
* CIL RETENTION	RATIONAL	Æ: (If	applicab	le) ADEQUATE INADEQUATE	_									
REMARKS: THIS FAILURE CAU CAUSING LOSS OF	SES THE VERNIERS	INABIL THUS	ITY TO OP MISSION O	EN THE ISOLAT	TION VALVE,									

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	,	-1107		:		:	NASA DA BASELI	INE	•) x]	
SUBSYSTI MDAC ID: ITEM:				FRCS 1107 DIOD	1									
LEAD AND	ALY	ST	:	D. H	ARTMA	M								
ASSESSMI	ENT	:												
	CR		ICAI LIGH	LITY	F	EDUN	DANCY	SCF	REENS			CI:		
	1	HD	W/FU	NC	A		E	3	(C		411	rM.	
NASA IOA	[3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDA'I	rio	ons:	(I:	f dif	fere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(AI	[DD/I		ETE)
* CIL RE REMARKS: NO DIFFE				RATIO	VALE:	(If	appl	icab	A	DEQUAT		[]	
NO DIELE	LCI.		، ت											

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/88 FRCS-110 NONE	72X		NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11072 DIODE					
LEAD ANALYST:	D. HARTI	IAN				
ASSESSMENT:						
CRITICA		REDUNDAN	CY SCREE	NS	CIL	4
FLIG HDW/F		A	В	С		•
NASA [/ IOA [3 /1] [R] [p]	[] [NA]	[] [P]	[] *]
COMPARE [N /N] [N]	[и]	[N]	[]
RECOMMENDATIONS	: (If d	ifferent	from NAS	A)		
[3 /1	.R] [P]	[NA]	[P] (A	[DD/D1] ELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicable) ADEQUATE INADEQUATE	[]
REMARKS: DIODES NOT ADDI INTO A FMEA.	RESSED BY	A FMEA.	IOA RECO	MMENDS THEI	R IN	CLUSION

SUBSYSTEM MANAGER STATED THAT THE DIODES WERE PART OF THE MANIFOLD ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMI ASSESSMI NASA FMI	ENT	ID	TE:	1/29/ FRCS- NONE	88 1107	′3X			J	NASA BASE	DATA LINE NEW	[]	
SUBSYSTE MDAC ID:				FRCS 11073 DIODE										
LEAD ANA	LYS	T:		D. HA	R TMA	N								
ASSESSME	ENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C														
	H	DW,	/FUN	IC	A	,	В	}	C	3		1111	•	
NASA IOA	[з ,	/ /3]	[]	[]	[[]		[] *	
COMPARE	[]	N ,	/N]	[]	[]]]		[]	
RECOMMEN	DAT:	IOI	1s:	(If	dif	fere	nt fr	om N	IASA)					
	[:	3 /	/3]	[]	[]	[]	(AD	[D/DE] CLETE)	
* CIL RE	TEN:	ric	ON R	ATIONA	LE:	(If	appl	icab	A	DEQUA		[]	
REMARKS: DIODES N INTO A F	OT A	ADI	RES	SED BY	. A 1	FMEA.	IO	A RE	COMME	NDS 1	HEIR	INC	LUSION	

SUBSYSTEM MANAGER STATED THAT THE DIODES WERE PART OF THE MANIFOLD ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMI	SSESSMENT DATE: 1/29/8 SSESSMENT ID: FRCS-1 ASA FMEA #: NONE													ATA: LINE NEW	[]	
SUBSYSTI MDAC ID: ITEM:				FRO 110 DIO	74									-			
LEAD AND	ALYS	ST	;	D.	HARTI	(A)	1										
ASSESSMI	ENT	:															
	CR		[CAL]			RI	EDUN	DAN	CY	SCR	EENS	3			CIL		
	1		LIGHT V/FUI			A			В			С			115	rı	
NASA IOA	[3	/ /1R]	[P]	[N <i>P</i>]	[[P]		[]	*
COMPARE	[N	/N]	[N]	ĺ	N]	(N]		[]	
RECOMME	NDA'	rI	ons:		(If d	if:	fere	nt	fro	om N	IASA))					
	[3	/1R]	[P]	(N2	A]	[P	3	(A)	[DD/E] ELE	ETE)
* CIL R	ETE:	NT:	ION 1	RAT:	IONAL	E:	(If	ap	pl:	icak				ATE	_]	
REMARKS DIODES	TON		DDRE:	SSE	D BY	A :	FME <i>A</i>	١.	IO	A RI			-	ATE THEI	-	_	JSION

SUBSYSTEM MANAGER STATED THAT THE DIODES WERE PART OF THE MANIFOLD ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:			′5X					DATA: ELINE NEW	[
SUBSYSTI MDAC ID: ITEM:				FRCS 11075 DIODE									
LEAD AND	ALY	ST	:	D. HA	RTMA	N							
ASSESSMI	ENT	:											
	CR		ICAL:	ITY	R	EDUN	DANCY	SCI	REENS			CIL	
	1			NC I	A		E	3	С			ITE	M
NASA IOA	[3	/3]	[]]]	[]]] *
COMPARE	[N	/N]	[]	[]	1]		[]
RECOMMEN	IDA:	ric	ONS:	(If	dif	fere	nt fr	om N	NASA)				
	[3	/3]	[]	[]	[]		[D/DI] ELETE)
* CIL RE	ETE	NT]	ON I	RATIONA	ALE:	(If	appl	icab	•			_	_
REMARKS:											ATE ATE	[]
DIODES N INTO A F	TOT	ΑΙ \.	DDRES	SSED BY	A	FMEA.	. 10	A RE	ECOMMEN	DS	THEIR	INC	CLUSION

SUBSYSTEM MANAGER STATED THAT THE DIODES WERE PART OF THE MANIFOLD ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSME	SSESSMENT DATE: 1/29/ SSESSMENT ID: FRCS- ASA FMEA #: 05-6K UBSYSTEM: FRCS]		DA DAT ASELIN NE		[]	
SUBSYSTE MDAC ID:				11	CS 076 RCUI	T	BR	REAKI	ER											
LEAD ANA	ALYS	ST:	:	D.	HAR	T	IAN	ī												
ASSESSMI	ENT:	:																		
	CR		CAL		7.		RE	EDUNI	OAN	CY	sc	REE	NS				CI Tr	L CEN	4	
	F	LIGH! N/FUI				A			В				С				,	•		
NASA IOA			/1R /1R]		[P P]	[P	A]		[P P]		[]	*
COMPARE	[/]		[]	[N]		[]		[]	
RECOMME	NDA'	ΓI	ons:		(If	d :	if	fere	nt	fr	om	NAS	A)							
	[/]		[]	[3		[]	(Al		/ DI		ETE)
* CIL R		NT:	ION :	RAT	rion	AL	E:	(If	aŗ	p1	ica				EQUAT EQUAT		[]	

IOA AGREES WITH NASA FMEA.

NASA DATA:

ASSESSMENT DATE: 1/29/88

ASSESSMENT ID: NASA FMEA #:	FRCS-11 05-6KF-	.077X ·2280-2		BASELII N	NE [] EW [X]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11077 CIRCUIT	BREAKE	R		
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICA FLIG		REDUND	ANCY SCR	EENS	CIL ITEM
HDW/F	UNC	A	В	С	LILM
NASA [3 /1 IOA [3 /3	R] [P]	[F] []	[P] []	[X] * []
COMPARE [/N] [N]	[N]	[N]	[N]
RECOMMENDATIONS	: (If d	ifferent	t from N	ASA)	
[3 /3) []	[]	[]	[D] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicab	le) ADEQUATE INADEQUATE	
REMARKS: NASA FMEA CONTA EFFECT.	INS MULTI	PLE FAII	LURES. 1		

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-110 NONE	78X		NASA DATA: BASELINE NEW	[]						
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11078 MICROSWI	гсн										
LEAD ANALYST:	D. HARTM	AN										
ASSESSMENT:												
CRITICAL	NS	CIL ITEM	İ									
FLIGH HDW/FU		A	В	С								
NASA [/ IOA [3 /2R] [] [P] [p]	[] [P]	[] *]						
COMPARE [N /N] [и]2880Н[[N]	[и]	[]						
RECOMMENDATIONS:	(If di	fferent i	from NAS	A)								
[3 /2R] [P] [P]	[P] (Al	[DD/DE] LETE)						
* CIL RETENTION	RATIONALE	: (If app) ADEQUATE INADEQUATE	[]						
REMARKS: SWITCH NOT ADDRE INTO A FMEA.	SSED BY A	FMEA.	IOA RECO	MMENDS ITS	INCLU	JSION						

SUBSYSTEM MANAGER STATED THE MICROSWITCH WAS PART OF THE MANIFOLD 5 ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11					DATA: ELINE NEW	[]
	FRCS 11079 MICROSW	ІТСН						
LEAD ANALYST:	D. HARTI	MAN						
ASSESSMENT:								
CRITICAL		REDUND	ANCY	SCREEN	s		CIL	
FLIGH HDW/FU		A	В		С		ITEM	1
NASA [/ IOA [3 /2R] [P]	[[P] [P]		[] *]
COMPARE [N /N] [N]	[N] [n j		[]
RECOMMENDATIONS:	(If di	ifferen	t from	m NASA)			
[3 /2R] [Pj	[P] [P]	· (AD	[DD/DE] CLETE)
* CIL RETENTION I	RATIONALE	E: (If a	applio	cable)				
REMARKS:				I	ADEQU VADEQU		[]
SWITCH NOT ADDRES	SSED BY A	FMEA.	IOA	RECOM	MENDS	ITS I	NCLU	SION

ASSESSM	ASSESSMENT DATE: 1/29/ ASSESSMENT ID: FRCS- NASA FMEA #: 05-6K														SA BASE	LIN	E	[x		
SUBSYST				11	080	&	FU	ISO	L	ΛΓ	V A	OR	Е	s	WIT	СН				
LEAD AN	ALY	ST	:	D.	HAR	(T	IAN	Ī												
ASSESSM	ENT	:																		
	CRITICALITY FLIGHT HDW/FUNC						RE A	DUNE	AN	CY B		REE	NS	c				CIL		
			•					,	,				r	_	1			r	1	*
NASA IOA	[3	/1R /1R]		[P]	[P]		[P]			[]	
COMPARE	[/]		(]	(]		(1			[]	
RECOMME	NDA	TI	ons:		(If	d	if	ferei	nt	fr	om	NAS	A))						
	[/]		[]	{	•]		[]	1	(Al	[DD/D	EL	ETE)
* CIL F	ETE	NT	ION :	RAT	ION	AL	E:	(If	aŗ	pl	ica	ble			DEQU DEQU]	
REMARKS	:																			

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1108 05-6KF-20	21X 226-2	NASA DATA BASELINE NEW	
MDAC ID:		U ISOL VLV A OR	B SWITCH	
LEAD ANALYST:	D. HARTMA	.N		
ASSESSMENT:				
FLIGH	r	EDUNDANCY SCREEN	S	CIL ITEM
HDW/FUI	VC A	В	С	
NASA [3 /1R IOA [2 /1R] [P] [P] [P] [P] P]	[x] *
COMPARE [N /] [] [] []	[N]
RECOMMENDATIONS:	(If dif	ferent from NASA)	
[2 /1R] [P] [P] [[A] DD/DELETE)
* CIL RETENTION F	RATIONALE:	•	ADEQUATE NADEQUATE	į j
REMARKS: WITH VALVE CLOSED VALVE MOVEMENT.	LOSS OF AI	ACROSS CLOSE COL LL REDUNDANCY CAL	NTACTS PREV	ENTS FURTHER
PROPELLANTS TO ME			ITY FOR A F	'AILED CLOSED

REPORT DATE 2/26/88 C-1342

HELIUM ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE NEW											
MDAC ID:	FRCS 11082 HE OX & FU ISOL	VLV A OR B SWITCH											
LEAD ANALYST:	D. HARTMAN												
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
_ :	NC A	ВС											
NASA [3 /1R IOA [2 /1R] [P] [] [P]		[x] *										
COMPARE [N /] [] [] []	[N]										
RECOMMENDATIONS:	(If different	from NASA)											
[2 /1R] [P] [P] [P] (A	[A] DD/DELETE)										
* CIL RETENTION	RATIONALE: (If ap	pplicable) ADEQUATE INADEQUATE	[]										
REMARKS: WITH VALVE CLOSE VALVE MOVEMENT.	D, A SHORT ACROSS LOSS OF ALL REDU	CLOSE CONTACTS PRE	VENTS FURTHER LITY TO EXPEL										

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR A FAILED CLOSED HELIUM ISOLATION VALVE.

PROPELLANTS TO MEET CG LIMITS.

ASSESSMI ASSESSMI NASA FMI	ENT :	ID:		1108	33X)26 - 2				NASA DATA BASELINE NEW]		
SUBSYSTI MDAC ID ITEM:			FRCS 11083 HE OX	& F	TU IS	OL AL	V A OI	R E	3 SWITCH				
LEAD AND	ALYS'	r:	D. HA	RTMA	M								
ASSESSMENT:													
	CIL ITE												
	HI	DW/FUI	NC	A	1	В			С				
NASA IOA		3 /1R 3 /3]	[F)]	[P []	[P]	[] *]		
COMPARE	[/N]	[N	ı j	[N]	[N]	[1		
RECOMMEN	NDAT	IONS:	(If	dif	fere	nt fro	om NAS	SA)					
	[:	3 /3]	[]	[]	[[DD/D] ELETE)		
* CIL RI	ETENT	rion 1	RATION	ALE:	(If	appl	icable	•	ADEQUATE ADEQUATE	-]		
REMARKS: THIS FAI	-	E HAS	NO EFI	FECT	·				-	-	J		

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEN ASSESSMEN NASA FMEA	T II):	FRCS	-11	.08	4X 26-	1						DATA LINE NEW]	
SUBSYSTEM MDAC ID: ITEM:	:		FRCS 1108 HE O	4	F	υI	SOL	ΛΓ	V A	OR 1	B S	riw	'CH			
LEAD ANAL	YST	:	D. H	AR?	'MA	N										
ASSESSMEN	T:															
c		ICAL			R	EDU	NDA	NCY	SC	REEN	S			CII		
		LIGHT W/FUI	_		A			В			С				,	
NASA IOA	[3	/1R /1R]		[F)]		[P]	[[P P]		[]	*
COMPARE	[/	1		[]		[]	[]		[]	
RECOMMEN)ATI	ons:	(1	f	dif	fer	ent	fr	om	NASA)					
	£	/]		[]		[]	[]	(A	[.DD/I) DELJ	ETE)
* CIL RET	TENT	ION	RATIO	NA	LE:	(I	f a	ppl	ica				JATE JATE]	
REMARKS:	RENC	ES.														

ASSESSME ASSESSME NASA FME	D:		-110			L					SA DA BASELI N	NE	[[X]		
SUBSYSTEMDAC ID:	M:		FRCS 11085 OX &		T	K IS	SOL '	VĽ	7 1/	2 SV	VIT	СН				
LEAD ANA	LYST	!:	D. HA	ARTM	(A)	N										
ASSESSME	NT:															
•	F	ICAL: LIGH: W/FUI	r		RI A	EDUN	IDAN(CY B	SCR	EENS	c			CIL ITEM	ſ	
NASA IOA	[3	/1R /1R]	[P P]	[P NA]	[P P]	 	[]	*
COMPARE	[/]	[]	[N]	[]	1	[]	
RECOMMENI	DATI	ONS:	(If	di	fí	fere	nt :	fro	om Na	ASA)						
•	[/]	[]	[]	[]] Id A)	[D/DE] LE	TE
* CIL RET	TENT	ION F	NOITAS	ALE	:	(If	app	pli	.cab:			EQUATI EQUATI		•]	

NO DIFFERENCES.

ASSESSMEN	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11086X NASA FMEA #: 05-6KF-2028-2 SUBSYSTEM: FRCS															DAT ELIN NE	E] [X]	
SUBSYSTEM MDAC ID: ITEM:				11	086	U	TH	(IS	OL	V	/LV	1,	/2 S	WI	тсн					
LEAD ANA	LYS	T:		D.	HAF	(T	(A)	ī												
ASSESSMEN	T.																			
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C															CII					
		_					A				В			C	:					
NASA IOA	[3 3	/1R /1R]		[P P]		[[P NA]	[[F	'] ']			[[]	*
COMPARE	[/)		[]		[N]	[]			[]	
RECOMMEN	DAT	'IC	ns:		(If	d :	if	fere	ent	1	fro	m l	NASA	.)						
	[/]		[]		[]	[]	(AC	[D/I		ETE)
* CIL RE	TEN	T	ON 1	RAT	ION	ΑL	E:	(If	a	pı	pli	.cal		P	DEC	QUATE QUATE	2	[]	
REMARKS:	REN	ICI	Es.										_	.112	, DE	(ULL L	•	ι	1	

ASSESSME ASSESSME NASA FME	NT ID:	FRCS-1	108				ì	NASA DATA BASELINE NEW						
SUBSYSTEM MDAC ID:		FRCS 11087 OX & F	U T	K ISO	r Ar	V 1/2	swi	тсн						
LEAD ANA	LYST:	D. HAR	TMA	N										
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CI														
(CII													
	HDW/FU	JNC	A		В		C	2						
NASA IOA	[3 /1H [3 /1H	R]	[P [P]	[P]	[F	?]	[}	(] *				
COMPARE	[/]	[1	[N]	[1	[]	1]				
RECOMMEN	DATIONS:	(If	dif	feren	t fr	om NA	SA)							
	[/]	[]	[]	[[DD/I] DELETE)				
* CIL RET				appl	icabl	À	DEQUATE]					
IOA AGREI	ES WITH	NASA FM	EA.											

ASSESSMEN ASSESSMEN NASA FMEA	IT I	D:	1/29/ FRCS- 05-6F	-1108					ASA DA' BASELII Ni			
SUBSYSTEM MDAC ID: ITEM:	1:		FRCS 11088 OX &		ĸ IS	or ar	7 1/2	2 SWIT	гсн			
LEAD ANAI	LYSI	r:	D. H2	ARTMA	N							
ASSESSMEN	T:											
(rical]		R	EDUN	DANCY	SCRI	EENS		CII		
		W/FUN		A	•	В		С				
NASA IOA	[3	3 /1R 3 /1R]	[F]	[P [P]	[P [P]	[] *]	
COMPARE	[/	1	[]	[]	[]	[]	
RECOMMEN	DAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)				
	[/]	[]	[]	[]	[(ADD/I		E)
* CIL RE	TEN'	TION 1	RATIO	NALE:	(If	appl	icab	A	DEQUAT DEQUAT]	
REMARKS:												

ASSESSME ASSESSME NASA FME	NT	ID:		1108				ì	NASA DA' BASELII N	NE [; ;
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 11089 OX &	FU 1	rk is	OL VI	LV 1/	'2 SW]	тсн		
LEAD ANA	LYS	T:	D. HA	RTMA	\N						
ASSESSME	NT:										
	3	FICALI FLIGHT DW/FUN	r	F		DANCY				CII ITE	
		•		_,	-			C			
NASA IOA	[:	3 /1R 3 /1R]	[F	,]	[F	']]])]	[[] *
COMPARE	[/]	[)	[]	[]	[]
RECOMMEN	DAT]	cons:	(If	dif	fere	nt fr	om N	ASA)			
	[/	1	[]	[3	ľ		[ADD/D] ELETE
* CIL RE	rent	rion R	MOITAS	ALE:	(If	appl	icab	A	DEQUATE DEQUATE]
REMARKS:								TNV	PHONIE	· L	J

NASA DATA:

ASSESSME ASSESSME NASA FME	NΤ	II		FRO	CS-1	10		X 9-1						SA BASE	LIN	ΙE	[x		
SUBSYSTE MDAC ID: ITEM:				FRO 110 OX	090	U	TF	(ISO	L,	VL/	7 3/4/	/5	SW	ITC	:H 2	24			
LEAD ANA	LYS	ST	:	D.	HAF	(T	IAN	ī											
ASSESSME	NT	:																	
CRITICALITY REDUNDANCY SCREENS FLIGHT															CIL				
FLIGHT HDW/FUNC A B C																			
NASA IOA	[3	/1R /1R]		[P P]	[P P]]	P P]			[]	*
COMPARE	[/]		[]	[]	[]			[]	
RECOMMEN	IDA'	TI	ons:		(If	đ	if	feren	t	fr	om NA	SA)						
	[/]		[]	[]	[]		(A	[DD/E		ETE)
* CIL RI	ETE	NT	ION :	RAT	ION	ΑL	E:	(If	ap	pl	icabl			DEQ!			-]	
REMARKS		NC	ES.																

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRCS	-1109					NASA DAT BASELIN NE		x]		
SUBSYSTE MDAC ID:			FRCS 1109: OX &		rk is	SOL VI	ĽV 3/	4/5	SWITCH 2	4			
LEAD ANA	ALYS	T:	D. H	ARTM	AN								
ASSESSME	ENT:												
	CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C												
	Н	DW/FUI	NC	P	1	E	3		С				
NASA IOA	[3 /1R 3 /1R]	[F	?] ?]	[F))	[[P] P]	[] *		
COMPARE	ſ	/]	[]	[]	[1	[]		
RECOMMEN	DAT:	ions:	(II	dif	fere	nt fr	om N	ASA)					
	(/]	[]	[]	[[ADD/I] DELETE)		
* CIL RE	TEN'	TION F	RATION	ALE:	(If	appl	icab		ADEQUATE ADEQUATE]		
REMARKS:								T 14	WDE COULT	L	J		

ASSESSMEN ASSESSMEN NASA FME	NT I	D:	FRO	cs-1	.10								SASEL		[X]	
SUBSYSTEMDAC ID:			FRO 110 OX	092	U	TK	(ISC)L	ΔΓ/	7 3/4,	/5	SW	ИТСН	24				
LEAD ANA	LYST	:	D.	HAF	(T	(A)	Ī											
ASSESSME	NT:																	
CRITICALITY REDUNDANCY SCREENS FLIGHT														CI IT				
	_	W/FUI				A			В			С						
NASA IOA	[3	/1R /1R]		[P P]	[P P]	[P P]]]	*
COMPARE	[/	3		[]	[]	[]		[]	
RECOMMEN	DATI	ons:		(If	đ:	ifí	ferer	nt	fr	om NA	SA)						
	[/]		[]	[•]	[]	(A)				ETE)
* CIL RE	TENI	NOI?	RAT	ION	ΑL	E:	(If	aŗ	pl.	icabl		AI NAI	DEQUA DEQUA	TE TE	[]	
REMARKS:																		

IOA AGREES WITH NASA FMEA.

ASSESSME NASA FME	NT	I	D:	FF	29/ RCS- 5-6K	11			2					I		EELI:	NE	:] K]	[]	
SUBSYSTE MDAC ID:	M:			11	RCS .093	FU	T	ΚI	soi	ւ ւ	ΛΓ	V 3	3/4/	5 S	riwa	гсн :	24			
LEAD ANA	LYS	ST:	:	D.	HA	RTI	MA	N												
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS																				
	CR]		ICAL: LIGH:				R	EDU	NDA	M	CY	sc	REE	NS				CIL	-	
	ŀ						A				В			C	2					
NASA IOA	HDW/FUNC NASA [3 /1R] IOA [3 /1R]						P P]		[P P]		[I	?] ?]			[]	*
COMPARE	[/]		[]		[]		(]			[]	
RECOMMEN	rad	·IC	ons:		(If	d:	if	fer	ent	: 1	fro	om	NAS	A)						
	[/]		[3		[]		[)	i	(AC	[D/D		ETE
* CIL RE	TEN	T)	ON E	TAS	ION	ALI	Ξ:	(I	f a	pp	11	ica	-	A		UAT! UAT!		[]	
REMARKS:													x	,	_		J			

ASSESSMEN ASSESSMEN NASA FME	NT I	D:	FRCS-	1109					NASA DA' BASELII N	NE	[x	
SUBSYSTEM MDAC ID:	M:		FRCS 11094 OX & 1	FU T	K ISO	r ar	7 3/4/	/5 :	SWITCH :	24		
LEAD ANA	LYSI	!:	D. HAI	RTMA	N							
ASSESSME	NT:											
(F	CICALI LIGHT		R: A	ANCY B	SCREI		С		CIL		
NASA IOA	[3	/1R /1R]	[P]	[P]	[P] P]		[[] *
COMPARE	[/]	[]	C]	[]		[]
RECOMMEN	DATI	ons:	(If	dif	feren	t fro	om NAS	SA)				
	[/]	[]	[J	[]	(AD	[D/D] ELETE)
* CIL RE	rent	ION F	RATION	ALE:	(If	appl:	icable		ADEQUAT ADEQUAT		[]
REMARKS:									-		_	₹

ASSESSME NASA FME	NT I	D:	FRCS-	L109				j	BASEL		[
SUBSYSTEMDAC ID:	M:		FRCS 11095 MANIFO	OLD	1, 0	(& F	u ISO	L V	LV SWI	тсн	30		
LEAD ANA	LYSI	?:	D. HAI	RTMA	N								
ASSESSME													
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C													
	пL	W/FU	NC	A		Б		,	C				
NASA IOA	[3	/1R /1R]	[P]	[P [P]	[P] P]		[]	*
COMPARE	[/]	[]	[1	[3		{]	
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om NA	SA)					
	[/]	[]	[]	[]	(A)		DELE	TE)
* CIL RE			ADEQUA ADEQUA		[]							
NO DIFFE	ベビルぐ	.EJ.											

ASSESSME ASSESSME NASA FME	MTT	TT	١.	FRCS-1	109	96 03	X 0-2						SA DATA: BASELINE NEW		x]	
SUBSYSTE MDAC ID: ITEM:				FRCS 11096 MANIFO	LD	1	, ox	&	FU	I ISO	L \	/LV	SWITCH	30)		
LEAD ANA	LYS	ST:	;	D. HAR	TM	AN	ī										
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL																	
CRITICALITY REDUNDANCY SCREENS CIL ITEM																	
																	
NASA IOA	[3 2	/1R /1R]	[P P]	[P P]	[[P P]	[X] *]	•
COMPARE	[N	/	1	[1	[]	[]	[N]	
RECOMMEN	IDA'	TI	ons:	(If	di	fí	ferent	: :	fro	om NA	SA)					
	[2	/1R	1	[P]	1	P]	[P) (A		A /DI] ELET	TE)
* CIL RE	ETE	NT	ION :	RATION	ALE	:	(If a	ap)	pl:	icabl			DEQUATE DEQUATE	-]	
REMARKS:	AL			NDANCY	CA	US	SES II	NA.	BI	LITY	то	E	XPEL PRO	PΕ	LL	ANTS	S TO

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR A FAILED CLOSED HELIUM ISOLATION VALVE.

ASSESSMI ASSESSMI NASA FMI	ENT	'I	D:	FRO	29/88 CS-11 -6KF-	097	х 0-	·2]		A DA		[]	
SUBSYSTI MDAC ID: ITEM:				FRO 110 MAN		D 1	,	ох	&	F	U I	SOL	V]	LV :	SWI	гсн	30)		
LEAD AND	ALY	ST	:	D.	HART	NAN														
ASSESSMENT:																				
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C															7					
FLIGHT														11	EM					
NASA IOA	[3 2	/1R /1R]] [P P]]		[P P]		[E))			[X] *	
COMPARE	[N	/]	ί	,]		[]		[]			[N]	
RECOMMEN	IDA'	ΓI	ONS:	(If di	ffe	er	ent	: 1	rc	om l	NAS	A)							
	[2	/1R]	[P]		[P]		[F)		(AI	[)D/] LET:	E)
* CIL RE	TEI	NT]	ON I	RATI	ONALE	: ((I:	fa	pp)l i	.cal	•	A		TAU TAU		[]	
REMARKS: LOSS OF MEET CG	ALI LIN	L F	REDUN	IDAN	CY CA	USI	ES	IN	ΑE	SII	ΙΤΊ				_		•	LA	NTS	то

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR A FAILED CLOSED HELIUM ISOLATION VALVE.

ASSESSMENT ASSESSMENT NASA FMEA	r II):	FRCS-11098X BASELINE								x]	
SUBSYSTEM MDAC ID: ITEM:	:		FRCS 11098 MANIFO	1098 MANIFOLD 1, OX & FU ISOL VLV SWITCH								
LEAD ANAL	YST	:	D. HAI	RTMAI	N							
ASSESSMEN'	r:											
CI		[CAL]	TY T	R	EDUNDA	ANCY	SCREE	ens		CI II	IL TEM	
	HDV	V/FUN	iC	A		В		(2			
NASA IOA	[3 [3	/1R /1R]	[P]	[P]	[]	P] P]	[]	*
COMPARE	[/]	[]	[]	[]	[]	
RECOMMENDA	ATIC	ons:	(If	dif:	ferent	fro	om NAS	A)				
	[3	/3]	[]	[]	[]	[(ADD/	DELI	ETE)
* CIL RET	ENT	ON F	RATIONA	ALE:	(If a	appl	icable		ADEQUATI ADEQUATI	E []	
THIS FAIL	JRE	HAS	NO EFI	ECT	. swi	тсн	IS EA	SI	LY CORRI	ECTAE	BLE.	

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [] NEW [X]									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11099 MANIFOLD 1, OX & FU ISO	OL VLV SWITCH 30									
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICALI FLIGHT	י	ITEM									
HDW/FUN	IC A B	С									
NASA [3 /1R IOA [3 /1R] [P] [P]] [P] [P]	[P] []* [P] []									
COMPARE [/] [] []	[] []									
RECOMMENDATIONS:	(If different from Na	ASA)									
[/	[] []	[] [] (ADD/DELETE)									
* CIL RETENTION F REMARKS: NO DIFFERENCES.	RATIONALE: (If applicab)	le) ADEQUATE [] INADEQUATE []									

]

ASSESSMEN ASSESSMEN NASA FME	I TV	D:	1/29/8 FRCS-1 05-6KF	.1100		NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM MDAC ID:	M:		FRCS 11100 MANIFO	OLD 2	2, 0	x & F	J ISO	r Ar	v swii	гсн	31		
LEAD ANA	LYST	? :	D. HAF	RTMAI	1								
ASSESSME	T:												
•		ICAL		RI	EDUN	DANCY	SCRE	ens			CIL	4	
			NC	A		В		С					
NASA IOA	[3	/1R /1R]	[P]	[P [P]	[P]		[] *	
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om NA	SA)					
	[/]	[]	[]	[]	(Al	[[a] ELETE)	
* CIL RE	TENT	rion 1	RATION	ALE:	(If	appl	icabl	A	DEQUA']	
REMARKS:									 ,	- -	L	•	

ASSESSME ASSESSME NASA FME	NT NT A	D I #:	ATE: D:	1/29/ FRCS- 05-6K	1/29/88 NASA DATA FRCS-11101X BASELIN 05-6KF-2030-2 NE								NE						
SUBSYSTE MDAC ID:				11101	1101 ANIFOLD 2, OX & FU ISOL VLV SWITCH								'CH	3:	ı				
LEAD ANA	LY	ST	:	D. HA	RTI	MAI	N												
ASSESSME	NT	:																	
	CR:		ICAL:	ITY r		RI	EDUND	Al	NC	Y	SCRI	EEN	s				IL Cen		
	1			NC		A				В			С			Δ.	LE	1	
NASA IOA	[3 2	/1R /1R]	[P P]		[P P]	[P P]		[x]	*
COMPARE	[N	/]	[]]	[]		ſ	N]	
RECOMMEN	DA!	ri(ons:	(If	di	ifi	feren	t	f	rc	om N2	ASA)						
	[2	/1R]	[P]	l		P]	[P]	(Al				TE)
* CIL RE	TEI	YT:	ION I	RATION	ALI	ዸ:	(If	aŗ	qq	li	.cab]	•		DEQUAT DEQUAT]	
REMARKS: THIS FAI												PEN	TH	IE VAL	VE.				

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 2 ISOLATION VALVE.

LIMITS.

ASSESSMEN ASSESSMEN NASA FMEA	TI	D:	FRCS-	1110	2X 30-2					A DATA: SELINE NEW	[]	
SUBSYSTEM MDAC ID: ITEM:	[:		FRCS 11102 MANIFO	OLD :	2, OX	& F	u Iso	נ ע	/LV s	SWITCH	31			
LEAD ANAI	YSI	?:	D. HAI	RTMA	N									
ASSESSMEN	T:													
c		'ICAL		R	EDUND#	NCY	SCRE	ENS	3		CI IT	L EM		
	_		NC	A		В			С					
NASA IOA	[3	/1R /1R]	[P]	[P]	[[P] P]]	x] *	k
COMPARE	[]	1 /	1	[1	[1	[]		[N]	
RECOMMEND	ATI	ons:	(If	dif	ferent	. fr	om NA	SA))					
	[2	2 /1R]	[P]	[P	1	[P]	(Al		A DE		ΓE)
* CIL RET	ENT	TION 1	RATION	ALE:	(If a	appl	icabl		ADE(QUATE QUATE	[]	
REMARKS: THIS FAIL	URI	E CAU	SES LO	ss I	NABIL:	ΙΤΥ	TO OP	EN	THE	VALVE	•	LO	SS	OF

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 2 ISOLATION VALVE.

ALL REDUNDANCY CAUSES INABILITY TO EXPEL PROPELLANTS TO MEET CG

LIMITS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1110	3X 30-2		NASA DATA BASELINE NEW]
SUBSYSTEM:	FRCS 11103			VLV SWITCH	•	•
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
FLIGH:					CIL	ſ
HDW/FU	NC A		В	С		
NASA [3 /1R IOA [3 /1R] [P] [P] [P] P]	P] P]	[] *]
COMPARE [/] [] [] []	[]
RECOMMENDATIONS:	(If dif	ferent f	rom NASA	A)		
[3 /3] [] [) ([DD/DE] LETE)
* CIL RETENTION F	RATIONALE:	(If app	•	ADEQUATE NADEQUATE	[]
THIS FAILURE HAS	NO EFFECT	. SWITC	H IS EAS	SILY CORRECT	TABLE	

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEN ASSESSMEN NASA FME	T I	D:	1/29/88 FRCS-11104X 05-6KF-2030-1									SA DA'I BASELIN NI	1E	[x		
SUBSYSTEM MDAC ID: ITEM:			FRCS 11104 MANIF	OLD) 2	e, ox	₹ &	FU	J ISO	L V	/LV	SWITC	СН	31		
LEAD ANA	LYST	:	D. HA	RTM	IAN	ī										
ASSESSME	NT:															
•		ICAL			RE	EDUNI	OAN	CY	SCRE	ENS	3			CII		
	_	LIGHT W/FU			A			В			С					
NASA IOA	[3	/1R /1R]	[P P]	[P P]	[P P]		[]	*
COMPARE	[/	1	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If	di	Ĺfí	fere	nt	fr	om NA	SA)					
	C	/]	[)	[]	(]	(Al	[DD/I] DELE	TE)
* CIL RE	TENT	'ION	RATION	ALI	€:	(If	ap	pl.	icabl			DEQUAT DEQUAT		[]	
REMARKS:																

ASSESSME NASA FME	NT 3	ID:	FRCS	-111		NASA DATA: BASELINE [] -1 NEW [X]							
SUBSYSTEM MDAC ID:	M:		FRCS 1110 MANI	5	3,	OX & I	TU IS	OL VL	V SWITC	CH 32			
LEAD ANA	LYSI	r:	D. H	ARTM	AN								
ASSESSME	NT:												
(F	ricali Flight	ľ			NDANCY		REENS		CII			
	HI	OW/FUN	1C	j	A	F	3	С					
NASA IOA	[3	3 /1R 3 /1R]	[]	P] P]	[F)	[P]	[[] *		
COMPARE	[/]	[]	[]	[]	[]		
RECOMMENI	DATI	ons:	(I	f di	ffer	ent fr	om N	ASA)					
	[/	J	C]	[]	[]	[(ADD/I) DELETE		
* CIL RET	rent	CION F	OITAS	NALE	: (I:	f appl	icab	A	DEQUATE DEQUATE]		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11106 05-6KF-203	5X 30-2	NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	11106	3, OX &	FU ISOL V	VLV SWITCH	32					
LEAD ANALYST:	D. HARTMAN	1								
ASSESSMENT:										
CRITICAL: FLIGH	ITY RI	EDUNDANC	Y SCREENS	S	CIL ITEM					
HDW/FUI			В	С						
NASA [3 /1R IOA [2 /1R] [P]] [P] [P] [P] P]	[x] *					
COMPARE [N /] [] [] [1	[N]					
RECOMMENDATIONS:	(If dif	ferent f	rom NASA)						
[2 /1R] [P] [P] [P] (AI	[A] DD/DELETE					
* CIL RETENTION 1	RATIONALE:	(If app		ADEQUATE NADEQUATE	[]					
REMARKS: THIS FAILURE CAUSES			PEN THE	VALVE. LOS	S OF ALL					

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 3 ISOLATION VALVE.

LIMITS.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11107X NASA FMEA #: 05-6KF-2030-							-2								ELI		[]			
SUBSYSTEM MDAC ID: ITEM:	1 :			11	CS 107 NIF	ΣLI	D:	3,	ох	&	FU	J]	ISOL	, 7)L\	7 S	WIT	гсн	32	2		
LEAD ANAI	LY:	ST	:	D.	HAI	RTI	IAM	V														
ASSESSMEN	T	:																				
c	R.		ICAL:				RI	EDI	JNDA	ANG	CY	s	CREE	NS	3					IL PEN	1	
	1	HDI	W/FUI	NC			A				В				С							
NASA IOA]	3 2	/1R /1R]		[P P]		[P P]		[P P]			[x]	*
COMPARE	[N	/]		[]		[]		[]			[N]	
RECOMMEND	A.	ric	ons:		(If	d.	if	fe	rent	t :	fro	om	NAS	A))							
	[2	/1R]		[P]		[P]		[P]			[DD,			ETE
* CIL RET	E	NT:	ION 1	RAI	'ION	AL	E:	(:	If a	ąpį	21:	ica	able	•			UAT UAT		[]	
REMARKS: THIS FAII REDUNDANG LIMITS.																						

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 3 ISOLATION VALVE.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11108			NASA DATA BASELINE NEW		
	FRCS 11108 MANIFOLD	3, ox	& FU ISOL	VLV SWITCH	32	
LEAD ANALYST:	D. HARTMAI	N				
ASSESSMENT:						
CRITICAL: FLIGHT		EDUNDA	NCY SCREE	ns	CIL ITEM	
HDW/FUI	IC A		В	С		
NASA [3 /1R IOA [3 /1R] [P]	[P] [P]	[P] [P]	[] *	t
COMPARE [/] []	[]	[]	[]	
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)		
[3 /3] []	[]	[] (A	[] DD/DELEI	ΓE)·
* CIL RETENTION	RATIONALE:	(If a	pplicable	ADEQUATE INADEQUATE		
REMARKS: THIS FAILURE HAS	NO EFFECT	. swi	TCH IS EA			

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11109X							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11109 MANIFOLD 3, OX	& FU ISOL	VLV SWITCH	32				
LEAD ANALYST:	D. HARTMAN							
ASSESSMENT:								
CRITICAL1 FLIGHT	r	ANCY SCREE		CIL ITEM				
HDW/FUN	NC A	В	С					
NASA [3 /1R IOA [3 /1R] [P]] [P]	[P] [P]	[P] [P]	[] *				
COMPARE [/] []	[]	[]	[]				
RECOMMENDATIONS:	(If different	t from NAS	A)					
[/] []	[]		[] DD/DELETE				
* CIL RETENTION F	RATIONALE: (If a) ADEQUATE INADEQUATE	[]				

ASSESSME ASSESSME NASA FME	NT ID:	1/29/ FRCS- 05-6K	1111			CA: IE [EW []] x]			
SUBSYSTE MDAC ID: ITEM:	M:	FRCS 11110 MANIF		4, 0	X & F	u isc	L V	LV SWITC	:H 33	
LEAD ANA	LYST:	D. HA	RTMA	N						
ASSESSME	NT:									
	CRITICAI FLIGH	T	DANCY	SCRE	ENS		CII			
	HDW/FU	NC	A		E	3	(2		
NASA IOA	[3 /1F [3 /1F]	[P]	[F)	[]	?] ?]	[] *
COMPARE	[/]	[]	[]	[]	C]
RECOMMEN	DATIONS:	(If	dif	fere	nt fr	om NA	SA)			
	[/]	[]	[]	[[ADD/I] DELETE)
* CIL RE	TENTION	RATION	ALE:	(If	appl	icabl	7	DEQUATE]
REMARKS:										

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-111	L11X		NASA DATA: BASELINE NEW				
	FRCS 11111 MANIFOLI	0 4, OX (& FU ISOL	VLV SWITCH	33			
LEAD ANALYST:	D. HARTI	IAN						
ASSESSMENT:								
		REDUNDA	NCY SCREE	ns	CIL ITEM			
FLIGH HDW/FU		A	В	С				
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[] * [X]			
COMPARE [N /] []	[]	[]	[N]			
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)				
[2 /1R] [P]	[P]		[A] .DD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If a	pplicable	adequate	[]			
REMARKS: THIS FAILURE CAU REDUNDANCY CAUSE LIMITS.	SES INAB S INABIL	ILITY TO ITY TO E	OPEN THE	E VALVE. LO	SS OF ALL			
ISSUE IS TIED TO CLOSED MANIFOLD	THE IOA 4 ISOLAT	HARDWAR	E CRITICA	ALITY FOR TH	E FAILED			

ASSESSMENT DATE: 1/29/88															DAT					
ASSESSM	SSESSMENT ID: FRCS-11112X ASA FMEA #: 05-6KF-2030-2							BASELINE []												
NASA FM	EA	#:		05-6K	F-	20:	30-	·2							NE	W	Ĺ	X		
SUBSYST	EM:			FRCS																
MDAC ID	:			11112																
ITEM:				MANIF	OL	D 4	4,	ОХ	&	F	J ISC	or .	VL	V SV	ITC	H	33	3		
LEAD AN	ALY	ST	:	D. HA	RT!	(AM	N													
ASSESSM	ENT	:																		
	CR					R	EDU	NDA	M	CY	SCRI	EEN:	3					[L [EN		
	:	ITICALITY RE FLIGHT HDW/FUNC A 3 /1R] [P 2 /1R] [P						В С								•	т.1	I E.P	1	
NASA	r	3	/1P	1	г	Ð	1		r	ъ	1	г	ъ	ו			r		ו	
IOA	[2	/1R	j	[P]		[P	j	ĺ	P]			[X	j	
COMPARE	ſ	N	/]	[]		ſ]	ſ		1			ſ	N	1	
	•			•	-		-		•		-	-		-					-	
RECOMME	NDA'	TI	ons:	(If	d:	if	fer	ent	: 1	fro	om NA	ASA)							
	ſ	2	/1R]	ſ	P	ו		Г	P	1	ſ	P	1			ſ	Α	1	
	•			•	•		•				-			•			-		_	ETE)
* CIL R	ETE:	NT:	ION I	RATION	ALI	Ξ:	(I	f a	p)1i	cabl	le)								
													AI	DEQU	ATE		[]	
REMARKS												11	IAV	EQU	ATE		[]	
THIS FA	-	RE	CAUS	SES IN	AB:	L	[TY	TC) (PF	N TH	ie v	/A1	LVE.	L	oss	S	OF	7	\LL
REDUNDAL																				

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 4 ISOLATION VALVE.

LIMITS.

NASA DATA:

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11113X NASA FMEA #: 05-6KF-2030-2 SUBSYSTEM: FRCS												SA DAT BASELIN NE	ΙE			
SUBSYSTE MDAC ID: ITEM:			11113	DLD	4	, ox	&	FU	ISOI	٠ ٦	/L\	SWITC	CH	33		
LEAD ANA	LYSI	r:	D. HAF	MTS	A۱	ī										
ASSESSME	NT:															
	CRITICALITY REDUNDA FLIGHT										3			CIL ITEN	1	
	HI	OW/FUI	VC		A			В			С					
NASA IOA	[:	3 /1R 3 /1R]	[P P]	[P P]	[P P]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDAT:	ions:	(If	di	fi	ferent	: f	ro	om NAS	SA)					
	[:	3 /3]	[]	[]	[]	(AI	[DD/DI		ETE)
* CIL RE	ETEN'	rion 1	RATION	ALE	:	(If a	app	1 1	icable			DEQUATI DEQUATI]	
REMARKS:		E HAS	NO EF	FEC	T	. sw	ITC	CH	IS E	AS:	IL:	CORRI	EC.	rabli	Ξ.	

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME NASA FME	NT	ID:	FRCS-	1111					ASA DATA BASELINE NEW				
SUBSYSTE MDAC ID:			FRCS 11114 MANIF		4, 0	X & F	u isc)L VL	V SWITCH	33			
LEAD ANA	LYS	T:	D. HA	RTMA	N								
ASSESSME	NT:												
											CIL ITEM		
	H	DW/FU	NC	A		В							
NASA IOA	[:	3 /1R 3 /1R]	[P]]	[P [P]	[P]	[[] *]		
COMPARE	[/]	[]	[]	[1	£]		
RECOMMEN	DAT:	ions:	(If	dif	fere	nt fr	om NA	SA)					
	[/	1	[]	[]	[[DD/D] ELETE)		
* CIL RE	TENT	rion 1	RATION	ALE:	(If	appl	icabl	A	DEQUATE DEQUATE]		
REMARKS:										L			

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-111	115X		NASA DATA: BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11115 RJDF1B	OLD LOGI	C SWITCH 7								
LEAD ANALYST:	D. HARTI	MAN									
ASSESSMENT:											
CRITICAL FLIGH	CIL ITEM										
	-	A	В	С							
NASA [3 /1R IOA [2 /1R	HDW/FUNC A B C ASA [3/1R] [P] [P] [P] IOA [2/1R] [P] [P]										
COMPARE [N /] [1	[]	[]	[N]						
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)							
[2 /1R] [P]	[P]	[P] (A	[A] DD/DELETE)						
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[]						
REMARKS: LOSE CAPABILITY											
ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED											

THRUSTER.

ASSESSMEN ASSESSMEN NASA FME	T I		1/29/8 FRCS-1 05-6KF	111			NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM MDAC ID: ITEM:	1 :		FRCS 11116 RJDF1E	3 F1	MAN	IFOLD	LOGI	c s	SWITCH '	7			
LEAD ANAI	LYST	:	D. HAF	RTMA	N								
ASSESSMEN	T:												
CRITICALITY REDUNDANCY SCREENS FLIGHT											CIL ITEM		
		W/FU	="	A	A B				С				
NASA IOA	[3	/1R /3]	[F)]	[P]	[[P]		[]	*
COMPARE	[/N]	[N]	[N]	[n]		[]	
RECOMMEN	DATI(ons:	(If	dif	fere	nt fr	om NA	SA)	ı				
	[3	/3]	[]	(]	[]	(Al	[] ELE	TE)
* CIL RET	rent:	ION 1	RATION	ALE:	(If	appl	icabl		ADEQUA' 'ADEQUA'		[]	
REMARKS:											•	•	

THIS FAILURE ALONE HAS NO EFFECT.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11117X NASA FMEA #: 05-6KF-2035-2													ASA DA' BASELII N	NE		_	
SUBSYSTEM: FRCS MDAC ID: 11117 ITEM: RJDF1B F1 MANIFOL LEAD ANALYST: D. HARTMAN										LOGI	c s	EWE	TCH 7				
LEAD ANA	ALYS	ST:	:	D. HA	RTI	(A)	ī										
ASSESSME	ENT:	:															
											CIL ITEM						
	r	וטו	w/ FUI	NC.		A			В			C					
NASA IOA	((3 3	/1R /3]	[P]	[P]	[P]		[]	*
COMPARE	[/N]	[N]	ĺ	N]	[N]		[]	
RECOMMEN	radi	PI(ons:	(If	d:	iff	feren	ıt	fro	om NAS	SA))					
	[3	/3]	[]	[]	[]	(AI	[DD/DI] ELF	TE)
* CIL RI	ETEN	VT:	ION I	RATION	ALI	Ξ:	(If	ap	pl:	icable	•		EQUATI		[]	
REMARKS:	-	RE	ALO	NE HAS	NO) I	EFFEC	T.									

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

NASA FMEA #: SUBSYSTEM: MDAC ID: ITEM:	FRCS-1111 05-6KF-20 FRCS 11118 RJDF1B F1	35-2 MANIFOI		•	
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
CRITICALI FLIGHT		EDUNDANC	Y SCREEN	rs	CIL ITEM
HDW/FUN	IC A		В	С	
NASA [3 /1R IOA [3 /1R] [P] [P] [P] P]	[] *
COMPARE [/] [] [] [1	[]
RECOMMENDATIONS:	(If dif	ferent f	rom NASA	·)	
[3 /3] [] . [) [] (Ai	[] OD/DELETE)
* CIL RETENTION F	RATIONALE:	(If app	_	ADEQUATE NADEQUATE	[]

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

THIS FAILURE HAS NO EFFECT.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11	119X		NASA DATA BASELINE NEW								
MDAC ID:	FRCS 11119 RJDF1B	F1 MANIF	OLD LOGIO	C SWITCH 7								
LEAD ANALYST:	D. HART	MAN										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CITY IT												
	NC	A	В	С	11111							
NASA [3 /1F IOA [2 /1F] [P] P]	[P] [P]	[P] [P]	[x] *							
COMPARE [N /] []	[]	[]	[N]							
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)								
[2 /1F	. [P]	[P]	[P]	[A] .DD/DELETE)							
* CIL RETENTION	RATIONAL	E: (If a	applicabl	ADEOUATE	[]							
REMARKS:				INADEQUATE	[]							
LOSE CAPABILITY	OSE CAPABILITY TO EXPEL PROPELLANTS TO MEET CG LIMITS.											
ISSUE IS TIED TO	THE IOA	HARDWAI	RE CRITIC	ALITY FOR TH	E FAILED OFF							

THRUSTER.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1112		NASA DATA: BASELINE NEW		
	FRCS 11120 RJDF1B F1	MANIFOL	D DRIVER	SWITCH 8	
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
CRITICAL FLIGH		EDUNDANC	Y SCREEN		CIL ITEM
HDW/FU	NC A		В	С	
NASA [3 /1R IOA [2 /1R] [P] [P] [P] [P] P]	[
COMPARE [N /] [] [] [3	[N]
RECOMMENDATIONS:	(If dif	ferent f	rom NASA	۲)	
[2 /1R] [P	J. [P] [[A] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If app		ADEQUATE	[]
REMARKS: LOSS OF ALL REDU TO MEET CG LIMIT		CAUSES	INABILIT	Y TO EXPEL	PROPELLANTS

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11121X NASA FMEA #: 05-6KF-2036-2														DATA LINE NEW	-]			
SUBSYSTE MDAC ID: ITEM:			FRCS 11121 RJDF1B F1 MANIFOLD DRIVER : D. HARTMAN										sv	VITC	н 8				
LEAD ANA	LYS	T:		D.	HAI	RTI	(A)	ī											
ASSESSMENT:																			
												CIL							
		A B									± ± ***								
NASA IOA	[3 3	/1R /3]	C A B (] [P] [P] [I] [] [P]		[]	*	
COMPARE	[/N]		[N]	[N]	C	N]		[]		
RECOMMEN	'DA'I	ric	ns:		(If	d:	if1	fere	nt i	Ero	om l	NASA))						
	[3	/3]		[]	[3	[]	(A	[\DD/D) EL	e t e)
* CIL RE	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []																		
REMARKS: NASA FME EFFECT.		CON	TAI)	NS	MUL	ri]	PLI	E FA	ILUI	RES	5.			_		-	E 1	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	ENT	ID:	FRCS-	111				NASA DATA: BASELINE [] NEW [X]						
SUBSYSTE MDAC ID:			FRCS 11122 RJDF1		'1 I	LD	DR	IVER	SWII	CH 8				
LEAD ANA	LYS	T:	D. HA	RTM	AN									
ASSESSME	ENT:													
			[TY		REI	OUNDAN	CY	SCI	REENS			CII		
	FLIGHT HDW/FUNC A B C											ITE	iM	
NASA IOA	[:	3 /1R 3 /3]	[P]] [P]]	P]		[] *]	
COMPARE	[/N]	[N]	[N]	[n j		[]	
RECOMMEN	DATI	cons:	(If	di	ffe	erent :	fro	om 1	NASA)					
	[3	3 /3]	[]	[]	[]	(A	[[] ELETE)
* CIL RE	TENI	TION F	RATION	ALE	: (If app	pli	.cab	1		UATE UATE	[]	
REMARKS: NASA FME EFFECT.	A CC	NTAIN	s Muli	CIP:	LE	FAILUI	RES		THIS	FAI	LURE	ALON	E HAS	ИО

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

NASA DATA:

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	FRCS-1	112	3 X			NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:		FRCS 11123 RJDF1B	F1	MANIF	OLD	DRIVER	SWITCH 8		
LEAD ANALYS	T:	D. HAR	TMA	N					
ASSESSMENT:									
	TICAL FLIGH		R	EDUNDA	MCY	SCREENS	3	CIL ITEM	
Н									
NASA [IOA [3 /1R 3 /1R]	[F	·]	[P] [P] P]		*
COMPARE [/	1	[]	[] [1		1
RECOMMENDAT	TIONS:	(If	dif	feren	t fr	om NASA)		
I	3 /3	3	[]	[] [] (A	[DD/DE] LETE)
* CIL RETEN	MOITN	RATION	ALE:	: (If	appl	icable) I	ADEQUATE NADEQUATE	[]
REMARKS: NASA FMEA (EFFECT.	CONTAI	NS MUL	ripi	LE FAI	LURE	s. THI	S FAILURE	ALONE	HAS NO
AT MEETING	WITH	SUBSYS	TEM	MANAG	ER O	N 1/20/	88, NSTS 2	2206	Was F was

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE

ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1112	24X 036-1	NASA D BASEL	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11124 RJDF1B F1	. MANIFOLD	DRIVER SWITCH	8
LEAD ANALYST:	D. HARTMA	Ŋ		
ASSESSMENT:				
CRITICALI FLIGHT	·	EDUNDANCY	SCREENS	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [3 /1R IOA [2 /1R] [P	[P] [P]] [P]	[] * [x]
COMPARE [N /] [] [] []	[N]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)	
[2 /1R] [P] [P] [P]	[A] (ADD/DELETE)
* CIL RETENTION R	ATIONALE:	(If appli	.cable) ADEQUAT INADEQUAT	
REMARKS: LOSS OF ALL REDUN TO MEET CG LIMITS	DANT JETS	CAUSES IN		

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF

REPORT DATE 2/26/88

THRUSTERS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11: 05-6KF-2		NASA DATA: BASELINE NEW		
MDAC ID:	FRCS 11125 RJDF1A	F2 MANIF	OLD LOGIC	SWITCH 7	
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		В	С	112.1	
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[x] *
COMPARE [N /] [1	[]	[]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[2 /1R] [Р]	[P]		[A] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	adequate inadequate	[]
REMARKS: LOSE CAPABILITY	TO EXPEI	PROPELI	LANTS TO 1	MEET CG LIMI	TS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTER.

ASSESSMI ASSESSMI NASA FMI	ENT]	D:	1/29/ FRCS- 05-6F	-111					ASA DATA BASELINI NEV		x]
SUBSYSTI MDAC ID: ITEM:			FRCS 11126 RJDF1		NIFOLD	LO	GIC SW	TCH 7			
LEAD ANALYST: D. HARTMAN											
ASSESSME	ENT:										
		ICAL	ITY T]	REDUI	NDANCY	SCI	REENS		CI IT	_
	HC	W/FU	NC	В		С					
NASA IOA	[3	/1R /3]	[]	?]]	[P]	[P]	[] *
COMPARE	[/N]	[]	1]	[N]	[N	1	[]
RECOMMEN	DATI	ons:	(If	dif	fere	ent fro	om N	IASA)			
	[3	/3]	[]	[]	[[.DD/I] DELETE)
* CIL RE REMARKS: THIS FAI							icab	AD	EQUATE EQUATE	[]
		ALO:	יה וואט	140	EFFE	CI.					

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

NASA DATA:

														SA D ASEL	INE]	
SUBSYSTEM MDAC ID:	4:			FRO 11: RJI	127	F	72	MANI	FOI	ZD.	LOG	ic s	WI	тсн	7			
LEAD ANALYST: D. HARTMAN																		
ASSESSME	NT:	;																
•	CR1		[CAL]				RE	DUND	AN	CY	SCR	EENS	5			CIL		
FLIGHT HDW/FUNC A										В			С					
NASA IOA	[3	/1R /3]]	P]	[P]]	P]		[]	*
COMPARE	[/N]		[N]	[N]	[N]		[]	
RECOMMEN	DA'	TIC	ons:		(If	đ	if:	feren	ıt	fr	om N	IASA)					
	[3	/3]		[]	[]	[]	(A	[.DD/I		ETE)
* CIL RE	TE	NT	ION	RAI	CION	ΑL	E:	(If	ap	pl	icak			DEQU DEQU]	
REMARKS: THIS FAI	: [LU	RE	ALC	NE	HAS	N	0	EFFE(CT.									

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME ASSESSME NASA FME	NT I	[D:	1/29/8 FRCS-3 05-6KI	111:					ASA DAT BASELIN NI		x]	
SUBSYSTEMDAC ID:	M:		FRCS 11128 RJDF12	A F	2 MAN	IFOLD	LOGI	C SW	TITCH 7			
LEAD ANA	LYSI	r:	D. HAI	RTM	AN							
ASSESSME	NT:											
•	F	TICALI TLIGHT	C	I	REDUN	DANCY	SCRE	ENS		CI	L EM	
	HE	W/FUN	iC	1	A	В		C	!			
NASA IOA	[3	3 /1R 3 /1R]	[]	?] ?]	[P [P]	[P]]] *	
COMPARE	[/]	[]	[1	[]	[]	
RECOMMEN	DATI	ons:	(If	di	ffere	nt fr	om NA	SA)				
	[3	3 /3	1	[]	[]	[[ADD/	DELET	E)
* CIL RE	rent	CION F	RATION	ALE:	(If	appl	icabl	A	DEQUATE DEQUATE	-]	
REMARKS:										•	•	

REPORT DATE 2/26/88 C-1389

THIS FAILURE ALONE HAS NO EFFECT.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11129 RJDF1A	F2 MANIF	OLD LOGI	C SWITCH 7	
LEAD ANALYST:	D. HARTI	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	1121
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[] * [x]
COMPARE [N /] [1	[]	[]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
[2 /1R] [P]	[P]	[P]	[A] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicabl	e) ADEQUATE INADEQUATE	
REMARKS: LOSE CAPABILITY	TO EXPEL	PROPELI	ANTS TO		
ISSUE IS TIED TO	THE IOA	HARDWAF	RE CRITIC	ALITY FOR TH	E FAILED OFF

THRUSTER.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-111 05-6KF-2			NASA DA BASELI N	
	FRCS 11130 RJDF1A H	F2 MANIE	FOLD DRI	EVER SWITCH	8
LEAD ANALYST:	D. HARTM	MAN			
ASSESSMENT:					
FLIGH		REDUNDA	NCY SCF	REENS	CIL ITEM
HDW/FU	NC	A	В	С	
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[x] *
COMPARE [N /] []	[]	[]	[N]
RECOMMENDATIONS:	(If di	fferent	from N	'ASA)	
[2 /1R] [P]	[P]		[A] (ADD/DELETE)
* CIL RETENTION I	RATIONALE	: (If a	pplicab	le) ADEQUATE INADEQUATE	
LOSE CAPABILITY	O EXPEL	PROPELL	ANTS TO	MEET CG LIN	fits.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-111			NASA DATA: BASELINE NEW	[x]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11131 RJDF1A F	2 MANIFOL	D DRIVER	SWITCH 8		
LEAD ANALYST:	D. HARTM	AN				
ASSESSMENT:						
	ITY	REDUNDANC	CY SCREENS	5	CIL ITEM	
FLIGH HDW/FU		A	В	С		
NASA [3 /1R IOA [3 /3] [P] [P] [P]	[]	*
COMPARE [/N] [и] [N] [N]	[]	
RECOMMENDATIONS:	(If di	fferent	from NASA)		
[3 /3] [] [] .[] (A)	[] DD/DEL	
* CIL RETENTION	RATIONALE	: (If ap)		ADEQUATE NADEQUATE	[]	
REMARKS: NASA FMEA CONTAI EFFECT.	INS MULTIE	LE FAILU	RES. THI	S FAILURE	ALONE	HAS NO
			017 3 /00 /	oo Neme 1	2206 W	INC

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	1/29 FRCS 05-6	-1111	32X 036-2	2			NASA BASE	LINE	-]	
SUBSYSTI MDAC ID: ITEM:			FRCS 1113 RJDF	-	VIFOLD	DF	RIVER	SWITC	8 H				
LEAD ANA	ALYS'	T:	D. H	ARTMA	N								
ASSESSME	ENT:												
	1	TICAL FLIGH	T	F	EDUN	DANCY	sc	REENS			CIL ITEM	ſ	
	H	DW/FU	NC	A			С			•			
NASA IOA		3 /1R 3 /3]	[F]	[P]	[P]		[] *	
COMPARE	[/N]	[N]	[11]	[]	N]		Ε]	
RECOMMEN	DATI	cons:	(If	dif	fere	nt fro	om :	NASA)					
	[3	3 /3]	[]	[3	[3	(AI	[DD/DE)
* CIL RE	TENT	ION	RATION	ALE:	(If	appli	.cal	1	ADEQUA ADEQUA		[]	
NASA FME. EFFECT.	A CO	NTAI	NS MUL	TIPL	E FA	ILURES		THIS	FAILU	RE A	LONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FME	T	ID	TE:	FRCS-11133X 05-6KF-2036-2 FRCS											DATA: LINE NEW	-]		
SUBSYSTEM MDAC ID:	M:			111	33	F	2	MANII	FOL	ď	DR]	(VER	SW	ITCI	н 8				
LEAD ANA	LYS	T:		D.	HAR	TM	AN	·											
ASSESSME	NT:	;																	
	CR1		CAL				RE	DUND	ANC	Y	SCI	REEN	S			CIL			
FLIGHT HDW/FUNC A B C																			
NASA IOA			/1R /1R			[P P]	[P P]	[[P P]		[]	*	
COMPARE	[/]		[]	[]	[]		[]		
RECOMMEN	IDA'	rI(ons:	(Ιf	đ	Ĺfí	feren	t:	fr	om	NASA	.)						
	[3	/3]		[]	ſ]	[]	(A	[DD/I		ETE))
* CIL RE	ETE	NT	ION	RAT	[ON]	AL	E:	(If	ap	pl	ica		A		JATE JATE	[]		
REMARKS: NASA FMI EFFECT.	EA	co	NTAI	ns 1	MUL	TI:	PL	E FAI	LU	RE	s.	THI	S	FAII	LURE	ALOI	ΙE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

NASA FMEA #: 05-6KF-2036-1 NEW										[]		
SUBSYSTEM: MDAC ID: ITEM:			FRCS 11134 RJDF1A	A F2	MANI	FOLI	D DR	IVER	SWITCH	8 1			
LEAD ANALYST: D. HARTMAN													
ASSESSMENT:													
	FL	CALI IGHT	•	F	REDUND	ANC	sci	REENS	;		CIL	M	
	HDW,	/FUN	C	A	١.	F	3		С				
NASA [IOA [3 ,	/1R /1R]	[F))	[]	?]]	P] P]		[x]	*
COMPARE [N,	/]	[]	[]	[]		[N]	
RECOMMENDA	TIO	NS:	(If	dif	feren	t fr	om 1	NASA)					
[2 ,	/1R]	[F	']	[F)	[P]	(AE	[A DD/DI		TE)
* CIL RETE	NTI	ON R	ATIONA	LE:	(If	appl	icak		ADEQUA ADEQUA]]	
REMARKS: LOSE CAPABILITY TO EXPEL PROPELLANTS TO MEET CG LIMITS.													

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11135X NASA FMEA #: 05-6KF-2035-1												SA DAT ASELII NI		[]			
SUBSYSTI MDAC ID: ITEM:				FRC: 111: RJD:	35	F3	MA	NIFO	OLD	I	OGIC	: s	WI	тсн 5					
LEAD AN	ALYS	ST	:	D. 3	HART	MAN	1												
ASSESSM	ENT	:																	
	CR		ICAL:			RI	EDU	NDAI	NCY	S	CREE	ENS	5				IL PEN	1	
	1		LIGH W/FU			A			В	,			С					-	
NASA IOA	[3 2	/1R /1R]]	P P]		[F	,]		[P P]		[X]	*
COMPARE	[N	/]	[]		[]	l	[]		[N]	
RECOMME	NDA	TI	ons:	(If d	if	fer	ent	fr	or	n NAS	SA))						
	[2	/1R)	[P]		[]	• :]	[P]	(A		A /D		ETE)
* CIL R	ETE	NT	ION	RATI	ONAL	E:	(I	f a	pp]	Lic	cabl			DEQUAT DEQUAT		[]	
REMARKS LOSE CA	: PAB	IL	YTI	TO F	EXPEI	, P	ROI	PELL	ANT	rs	TO 1	ME:	ET	CG LI	MI	TS	•		

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTER.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11 05-6KF-	136				N	IASA DAT BASELIN NE		x]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11136 RJDF2A	F3	MANIF	OLD	LOGIC	Sī	WITCH 5			
LEAD ANALYST:	D. HART	MAN	Ī							
ASSESSMENT:										
CRITICAL		RE	DUNDA	NCY	SCREE	NS		_	IL TEM	
FLIGH HDW/FU		A		В		1	С			
NASA [3 /1R IOA [3 /3]	[P]	[P]	[P]]	[[:] *]
COMPARE [/N	1	(N]	[N]	[и]	(]
RECOMMENDATIONS:	(If	dif:	ferent	t fr	om NAS	SA)				
[3 /3]	[]	[]	[])/DE] LETE)
* CIL RETENTION	RATIONA	LE:	(If	appl	icable		ADEQUAT IADEQUAT		:]
REMARKS: THIS FAILURE AL	ONE HAS	МО	EFFEC	т.						

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSM ASSESSM NASA FM	ENT	I	D:	F	/29/ RCS- 5-6K	11	13	7X 35-	-2							A DAT SELIN NI]	
SUBSYST MDAC ID ITEM:				1	RCS 1137 JDF2	A	F3	MA	NIF	OI	ĽD	LOC	GIC	sw	ITC	CH 5				
LEAD AN	ALYS	ST	:	D	. HA	RT.	MA	N												
ASSESSM	ENT:	:																		
		F	ICAI LIGH	łT	_			EDU:	NDA			SCF	REEN					IL PEM		
			√FU				A				В			С						
NASA IOA	[3	/1F /3	₹]		[P]] [P]	[[P]		[[]	*	
COMPARE	[/N]		[N]		[N]	[N]		[)		
RECOMMEN	TADI	'IC	ns:		(If	d:	if1	ere	ent	f	rc	m N	IASA))						
	[3	/3]		[]	İ	[]	[]	(.	[ADD/	DEL	ETE)
* CIL RE											li	cab	•			UATE UATE]		
THIS FAI	. LOK	نا.	MIO	14 C	паб	NC	Ľ	rrt	sci.	•										

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11138X NASA FMEA #: 05-6KF-2035-2									NASA DATA: BASELINE [] NEW [X]									
SUBSYSTE MDAC ID: ITEM:	M:			:	FRCS 11138 RJDF2	A I	F3	MAN	IIFO	LD	LOC	SIC S	SWI	тсн	5			
LEAD ANA	LYS	ST	:	1). HA	RT!	MAI	N.										
ASSESSME	NT:	:																
	CR		ICA LIG		ľΥ		RI	EDUN	IDAN	CY	SCF	REENS	3			CI	L EM	
	I	HD!	W/F	UN	2		A			В			С					
NASA IOA	[3 3	/1 /1	R R]	[P P]]	P P]	[P P]		[]	*
COMPARE	[/	•	1	[]	[]	[]		[]	
RECOMMEN	DAT	ri	оиѕ	:	(If	đ.	if	fere	nt	fr	om N	IASA)	ı					
	[3	/3			[]	(]	C]	(A	[DD/	DEI	ETE
* CIL RE	TEI	VT:	ION	R	ATION	ΑL	E:	(If	ap	pl:	icak	•		EQUA EQUA		[]	
REMARKS: THIS FAI	LUI	RE	AL	ONI	E HAS	N	o 1	EFFE	CT.									

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-111 05-6KF-2			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11139 RJDF2A F	F3 MANII	OLD DRIVE	R SWITCH 5	
LEAD ANALYST:	D. HARTM	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCREI	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	112.
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[] * [X]
COMPARE [N /] []	[]	[]	[N]
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)	
[2 /1F	[P]	[P]	[P]	[A] .DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE	[]
REMARKS: LOSE CAPABILITY	TO EXPEL	PROPEL	LANTS TO	MEET CG LIMI	TS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTER.

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